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A Study of Physical Facilities at Arkansas Colleges and Universities. Existing Facilities - 1967; Projected Facility Needs - 1975 and 1980.

Arkansas State Commission on Coordination of Higher Educational Finance, Little Rock.

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A survey of existing facilities and a projection of academic facility needs for state-supported and private institutions of higher education in Arkansas. Data are presented concerning physical facilities available, the condition of these facilities, and their present utilization. In addition to the utilization study, the report contains a projection of space needs for the various units of an institution, based on projected student enrollments. (FS)

ED028600

A STUDY OF PHYSICAL FACILITIES
AT
ARKANSAS COLLEGES AND UNIVERSITIES

Existing Facilities - 1967
Projected Facility Needs - 1975 and 1980

Report Number One

EF002613

Prepared by the
Arkansas Commission on
Coordination of Higher Educational Finance
August, 1968

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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A STUDY OF PHYSICAL FACILITIES AT ARKANSAS COLLEGES AND UNIVERSITIES

Existing Facilities - 1967

Projected Facility Needs - 1975 and 1980

Report Number One

Prepared by the

Arkansas Commission on
Coordination of Higher Educational Finance

August, 1968

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COMMISSION ON COORDINATION OF
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October 11, 1968

Mr. Richard R. Holden, Acting Director
Division of College Facilities
U. S. Office of Education
200 Maryland Avenue
Washington, D. C. 20202

Dear Sir:

Transmitted herewith is a copy of a recently completed report entitled "A Study of Physical Facilities at Arkansas Colleges and Universities". It was possible for the Commission to complete this Study because of the funds made available under the provisions of Title I, Section 105(b) of the Higher Education Facilities Act of 1963.

This report is Number One in a series of two. During the 1968 fiscal year, it was possible to complete part of the task of surveying and projecting facility needs for all public and private Arkansas institutions of higher education. Report Number One includes the survey of existing facilities and a projection of academic facility needs for State-supported institutions. During fiscal year 1969 this task will be completed for the private institutions and the community junior colleges, as outlined in our grant proposal for the Comprehensive Facilities Planning grant.

It is felt that the results of this year of study have assisted the State greatly in determining the construction needs of Arkansas institutions of higher education, and with the next year of study it is anticipated that this will be further improved.

Sincerely yours,

W. E. Darby

W. E. Darby
Chairman

WED/tk
Enclosure

ACKNOWLEDGMENTS

Throughout this Study there have been numbers of people who have played important roles, and without these dedicated persons the quality of the Study would have been greatly reduced. In the early phases of planning for the Study, Dr. Charles R. Walker, who at that time was the Assistant Director of the State Council of Higher Education for Virginia, assisted in the development of a manual of instructions and the overall plan for the Study. It was through the consultative services of Mr. William Watson of Associated Planners, Inc., Little Rock that buildings throughout the State were inspected to determine their structural quality and much of the data from institutions was reviewed.

Each institutional president appointed a representative for his particular institution to work with the Commission staff in collecting data for the Study. The services these persons performed and the cooperative attitude which they displayed contributed immeasurably to the success of the first year of study. Mr. Guy Hayes of Henderson State College, one of these institutional representatives, gave valuable assistance in the review of institutional data. A list of these institutional representatives is found at Appendix "B".

Appreciation is expressed for the manner in which the two staff members of the Commission conducted the Study during the first year, Dr. M. Olin Cook in his efforts to guide the Study and the untiring efforts of Mr. Robert E. McCormack, who gave constant direction and attention to the Study.

E. L. Angell
Executive Director

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SUMMARY AND RECOMMENDATIONS

This Study was financed under Title I, Section 105(b) of the Higher Education Facilities Act of 1963, whereby the U. S. Congress made funds available for comprehensive planning of construction needs of higher education. In order to determine the facility needs for both private and public institutions of higher learning in Arkansas, it was necessary to determine what facilities were presently available for use, the condition of these facilities and how they were being used.

In order to insure that the data on existing facilities were uniform, a space inventory and utilization manual was developed, which gave specific instructions for the collection of data. This manual, which conforms with a national data collection system being used by the various states, was presented and explained to institutional representatives from all institutions of higher learning in Arkansas. These institutional representatives were responsible for gathering physical facility data at their campus and were assisted by members of the Commission staff through conferences and campus visitations. A summary of these data reveals that approximately 4.6 million square feet of space is being used by the State-supported institutions and agencies of higher education in Arkansas.

This report presents the physical facilities available at institutions of higher education in Arkansas, both public and private, and their present utilization. Enrollment projections made for all of these institutions indicate that 77,000 students will be enrolled by 1975, and by 1980 the enrollments will climb to 99,000 students. In considering the State-supported institutions alone, the projected enrollment for 1975 is 55,046 and 71,293 students for 1980.

In addition to the utilization study, this report contains a projection of space needs in the State-supported institutions and agencies of higher education in Arkansas. A projection of physical facility needs is currently being prepared for the private institutions for the years mentioned above.

Space factors were developed to determine the space requirements for the various functional units of an institution. These factors were developed by examining data of existing facilities in Arkansas and then comparing them to similar factors used for planning purposes by other states. To project the needs to 1975 and 1980, these space factors were applied to the projected student enrollments of the nine State-supported academic institutions to determine total facility needs of these institutions in these years. Additional space needs were determined by deducting the available facilities from the total needs, as determined above.

A summary of the additional facility needs for the nine State-supported academic institutions can be found in Table No. 1. Also presented in this table are the additional needs of the off-campus agencies of the University of Arkansas. The cost of physical facility needs shown in Table No. 1 is presented in 1968 dollars in Table No. 2. Also presented in this table is the estimated cost to renovate existing facilities in order that they can continue to be used through 1980. The cost of air-conditioning existing buildings is presented in this table, as well as a suggested source of funds for the total cost of needed facilities. The amount shown in this table includes the cost of buildings and equipment, but does not include the cost of additional land needs or campus improvements.

Table 1
EXISTING AND NEEDED SQUARE FEET OF EDUCATIONAL AND GENERAL FACILITIES AS OF THE 1967, 1975 AND 1980 FALL TERMS

	Existing - Fall 1967 Square Feet		Additional Needs 1975 Square Feet		Cumulative Additional Needs 1980 Square Feet	
	Assignable	Gross	Assignable	Gross	Assignable	Gross
ACADEMIC INSTITUTIONS						
Arkansas A M & N College	247,208	339,582	187,095	267,279	294,157	420,224
Arkansas A & M College	191,110	259,138	83,017	118,596	148,484	212,120
Arkansas Polytechnic College	208,747	283,197	146,883	209,833	227,303	324,718
Arkansas State University	393,021	580,601	387,018	552,883	642,107	917,296
ASU - Beebe Branch	32,858	41,650	59,809	85,441	95,083	135,833
Henderson State College	172,324	240,436	209,483	299,261	345,008	492,868
Southern State College	197,530	249,836	143,189	204,556	206,574	295,106
State College of Arkansas	213,630	291,786	238,976	341,394	403,202	576,003
University of Arkansas (Main Campus)	1,055,468	1,439,393	307,999	439,998	528,159	754,513
TOTAL - Academic	2,711,896	3,725,619	1,763,469	2,519,241	2,890,077	4,128,681
OTHER AGENCIES						
Agricultural Experiment Station	(a)	(a)	101,304	112,560	101,304	112,560
Technology Campus	121,140 (b)	158,000	----(b)	----	15,240	19,900
Little Rock Division of School of Law and Graduate School of Social Work (Rented Facilities)	11,963	12,700				
Medical Center	399,138	714,243	307,234	553,022	531,180	956,124
TOTAL - Other Agencies	532,241	884,943	408,538	665,582	647,724]	1,088,584
GRAND TOTAL	3,244,137	4,610,562	2,172,007	3,184,823	3,537,801	5,217,265

(a) An inventory of existing facilities on the Agricultural Experiment Stations was not taken. The Main Campus Experiment Station is included under University of Arkansas Main Campus.

(b) Approximately 55,000 square feet of existing space which is leased to a private company for research purposes will be converted for academic use to meet the additional space need for 1975 of the agencies housed on this campus.

Table 2
ESTIMATED COST OF ADDITIONAL EDUCATIONAL AND GENERAL PHYSICAL FACILITY NEEDS OF ALL STATE-SUPPORTED INSTITUTIONS OF HIGHER EDUCATION BY THE 1975 AND 1980 FALL TERMS

	New Construction	Renovation	Air-Conditioning	Total Cost	Source of Funds	
					Federal Grants	State Funds
1975 Needs						
Academic Institutions	$ 73, 057, 989	$1, 727, 000	$3, 381, 609	$ 78, 166, 598	$26, 055, 532	$ 52, 111, 066
Off-Campus Agencies of the University of Arkansas	28, 939, 413	4, 664, 873	---	33, 604, 286	21, 156, 024	12, 448, 262
Grand Total - 1975	$101, 997, 402	$6, 391, 873	$3, 381, 609	$111, 770, 884	$47, 211, 556*	$ 64, 559, 328
1980 Needs						
Academic Institutions	$119, 731, 749	$1, 727, 000	$3, 381, 609	$124, 840, 358	$41, 613, 452	$ 83, 226, 906
Off-Campus Agencies of the University of Arkansas	49, 803, 349	4, 664, 873	---	54, 468, 222	34, 665, 315	19, 802, 907
Grand Total - 1980	$169, 535, 098	$6, 391, 873	$3, 381, 609	$179, 308, 580	$76, 278, 767*	$103, 029, 813

*Estimates of Federal Grant Funds are based on one-third of the total cost for the Academic Institutions to be provided by the Higher Education Facilities Act of 1963, and sixty-six percent from various Federal Grant Programs for the Medical Center.

The magnitude of the physical facility needs for the State-supported institutions and agencies of higher education dictates careful planning for the future, which should include the following:

1) A provision should be made for some type of permanent construction fund to support construction of facility needs. The establishment of this fund would assist the institutions in allowing more time for planning of specific facilities, which should result in creating the most desirable educational environment at an economical cost.

2) A master campus plan should be developed for each institution by a qualified consulting firm. This plan should include a system for the orderly development of an institution, as well as a determination of the additional land needed to accommodate future enrollments.

3) Each institution should plan carefully for the acquisition of land needed during the next 15 to 20 years.

4) The method of financing the construction of specific facilities should be studied carefully in order to insure maximum utilization of funds from Federal and other non-State sources.

5) The data contained in the Space Inventory and Space Utilization Study, conducted by the Commission during Fiscal Year 1968 with the support of the U. S. Office of Education, should be obtained annually so that a continual evaluation of physical facility needs can be determined. The updating of this Study should be coupled with a continuing evaluation of space and cost factors which were utilized in projecting facility needs.

6) In order to obtain maximum utilization of physical facilities at the State-supported institutions of higher learning, more study should be given to the possibility of year-round utilization of facilities.

PURPOSE OF STUDY

Since World War II there has continued to be an increasing number of persons to enroll in the higher educational institutions throughout this country. All projections indicate that this number will continue to climb. Because of this fact, institutions have been forced to concentrate more than ever before on the construction of additional facilities. Coupled with the need for additional facilities has been the emphasis on design of facilities which is a major part of creating the proper environment for learning.

Many states have found it impossible to provide the funds necessary for the construction of these needed facilities; therefore, as in many other cases, the Federal government has recognized this inability of the states and has supplemented the efforts of the states in providing physical facilities for higher education. Based upon this unmet need, the Federal Congress passed the Higher Education Facilities Act of 1963. The primary purpose of this Act was to provide for increased enrollment in the colleges and universities throughout the country.

Soon after the Higher Education Facilities Act became operative, it was recognized by those administering this Act in Washington and in the various states that planning for higher educational facility needs was poorly executed and in most cases absent. Persons became increasingly aware of the fact that data were not available or not in the proper form to document the facility needs throughout the country.

Because of this realization, legislation was passed some two years ago providing funds to states for facilities planning. This legislation became Title I, Section 105(b) of the Higher Education Facilities Act, and provided for grants to conduct comprehensive planning to determine construction needs of the institutions of higher education. Through the provisions of this Act, funds were provided to conduct the Study reported herein.

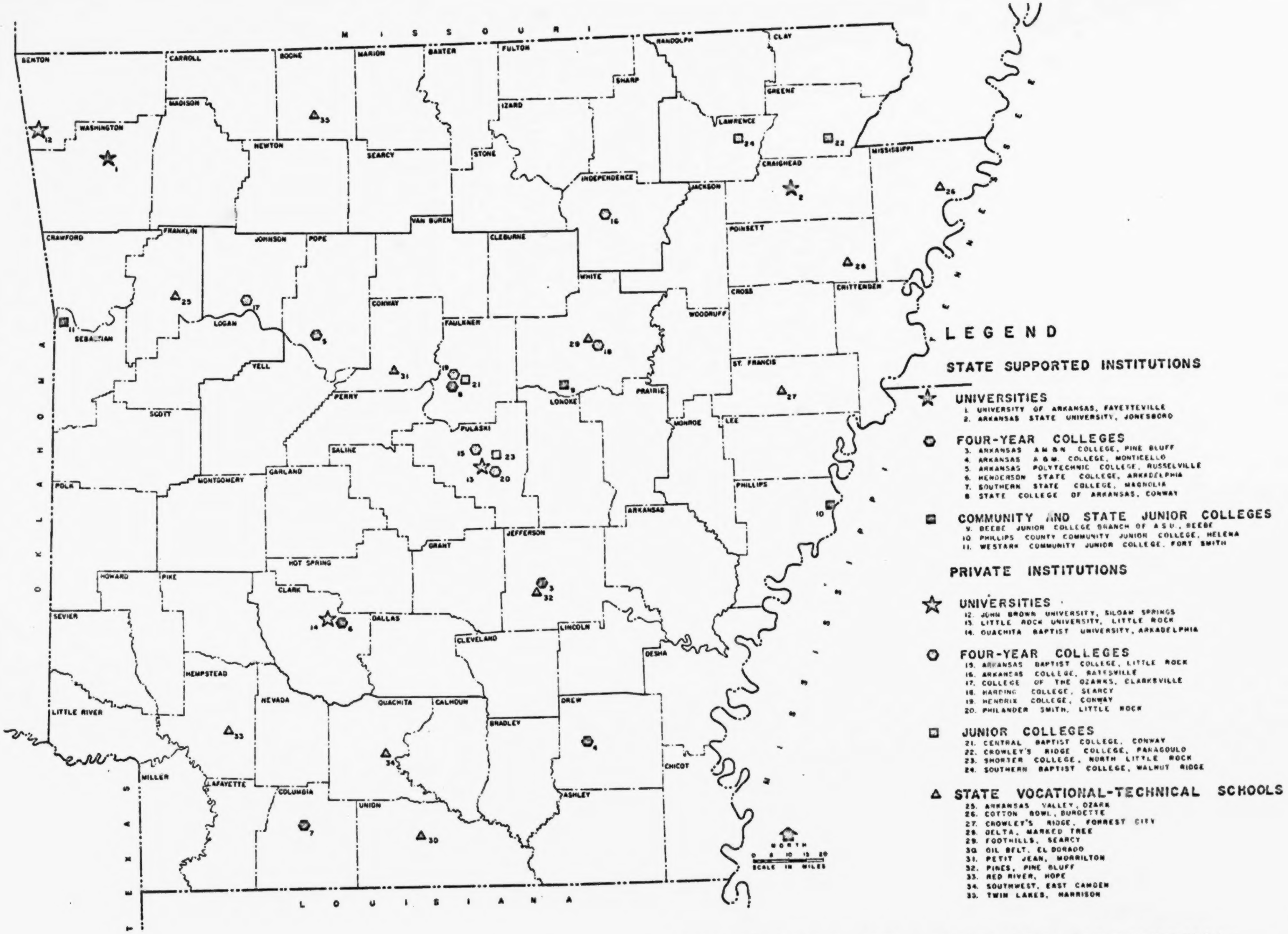
As outlined in the grant proposal to the U. S. Office of Education, it is anticipated that by the end of the second year of study all facility needs will be determined for all public and private institutions of higher education in Arkansas. The method used in making these determinations is described elsewhere in this report. It is recognized that this must be done as a first step in more adequate planning of facilities, and it is hoped that the results of this Study will be used by institutions and the Commission in improving the planning processes for educational facilities in Arkansas in the future.

BACKGROUND OF ARKANSAS HIGHER EDUCATION

Arkansas has twenty-four institutions of higher education, nine are State-supported, two community junior colleges are partially State-supported and thirteen institutions are privately owned and operated. A vast majority of these institutions were established in the late 1800's and the early 1900's with the newest segment of higher education being created since 1965, that of the community junior colleges. A map showing the location of these institutions, as well as the location of State vocational-technical schools, is at page 10.

The enrollment of these twenty-four institutions ranges from approximately 200 to 10,000, with the largest enrollment being that of the University of Arkansas. This institution is the land-grant university of the State and until 1967 was the only State-supported university. The University grants degrees at the Bachelor, Master and Doctoral levels, and also has the responsibility for the Agricultural Extension Service, the Agricultural Experiment Station, the Medical Center, the Graduate Institute of Technology and the Industrial Research and Extension Center. All of these facets of the University, with the exception of the Agricultural Experiment Stations, are located in Little Rock while the main campus of the University is located in Fayetteville. Also located in Little Rock are a branch of the Law School, the Graduate School of Social Work and the Graduate Extension Center.

The Medical Center has responsibility for all medical education of the State. Also, the Center includes a School of Pharmacy, School of Nursing, School of Dental Hygiene and various graduate programs leading to the Master's and Doctorate in the Physical Sciences. The Industrial Research and Extension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SCALE IN MILES
LEGEND
STATE SUPPORTED INSTITUTIONS
★ UNIVERSITIES
1. UNIVERSITY OF ARKANSAS, FAYETTEVILLE
2. ARKANSAS STATE UNIVERSITY, JONESBORO
⬢ FOUR-YEAR COLLEGES
3. ARKANSAS AM & N COLLEGE, PINE BLUFF
4. ARKANSAS A & M. COLLEGE, MONTICELLO
5. ARKANSAS POLYTECHNIC COLLEGE, RUSSELVILLE
6. HENDERSON STATE COLLEGE, ARKADELPHIA
7. SOUTHERN STATE COLLEGE, MAGNOLIA
8 STATE COLLEGE OF ARKANSAS, CONWAY
■ COMMUNITY AND STATE JUNIOR COLLEGES
9. BEEBE JUNIOR COLLEGE BRANCH OF A.S.U., BEEBE
10 PHILLIPS COUNTY COMMUNITY JUNIOR COLLEGE, HELENA
11. WESTARK COMMUNITY JUNIOR COLLEGE, FORT SMITH
PRIVATE INSTITUTIONS
☆ UNIVERSITIES
12. JOHN BROWN UNIVERSITY, SILOAM SPRINGS
13. LITTLE ROCK UNIVERSITY, LITTLE ROCK
14. OUACHITA BAPTIST UNIVERSITY, ARKADELPHIA
⬡ FOUR-YEAR COLLEGES
15. ARKANSAS BAPTIST COLLEGE, LITTLE ROCK
16. ARKANSAS COLLEGE, BATESVILLE
17. COLLEGE OF THE OZARKS, CLARKSVILLE
18. HARDING COLLEGE, SEARCY
19. HENDRIX COLLEGE, CONWAY
20. PHILANDER SMITH, LITTLE ROCK
□ JUNIOR COLLEGES
21. CENTRAL BAPTIST COLLEGE, CONWAY
22. CROWLEY'S RIDGE COLLEGE, PARAGOULD
23. SHORTER COLLEGE, NORTH LITTLE ROCK
24. SOUTHERN BAPTIST COLLEGE, WALNUT RIDGE
△ STATE VOCATIONAL-TECHNICAL SCHOOLS
25. ARKANSAS VALLEY, OZARK
26. COTTON BOWL, BURDETTE
27. CROWLEY'S RIDGE, FORREST CITY
28. DELTA, MARKED TREE
29. FOOTHILLS, SEARCY
30. OIL BELT, EL DORADO
31. PETIT JEAN, MORRILTON
32. PINES, PINE BLUFF
33. RED RIVER, HOPE
34. SOUTHWEST, EAST CAMDEN
35. TWIN LAKES, HARRISON

UNIVERSITIES, COLLEGES AND VOCATIONAL-TECHNICAL SCHOOLS OF ARKANSAS

Center is responsible to the School of Business at the University and acts as an arm of the University in dealing with studies and programs which have implications for the State in socioeconomic areas. The Graduate Institute of Technology offers certain technical graduate degrees and conducts research in these same fields of study. This Institute in some ways can be thought of as an extension of the technical programs of the University of Arkansas offered in Little Rock. The Graduate Extension Center serves the purpose of offering course work to persons, primarily on a part-time basis, who would not normally be enrolled for a degree and to persons who need additional course work for updating of skills or for increased efficiency in their particular occupation. Most of the courses offered by the Center are in the area of Education. Both the Graduate School of Social Work and the Branch of the Law School in Little Rock offer programs which are commonly taught in such schools.

Enrolling about 6,000 students is Arkansas State University, which was given university status in 1967 and is located in Jonesboro. This institution has grown from an agricultural high school to its present status and presently offers four-year degrees in Education, the Sciences, Liberal Arts, Fine Arts, Business and Agriculture. Only a limited number of Master's degrees are offered and no Doctoral work is given. Arkansas State University has a branch located at Beebe which offers only two years of college work and it is primarily of the transfer nature.

The other six State-supported institutions of higher education offer degrees in the areas of Liberal Arts, Fine Arts, Education, Business and the Sciences. Two of these institutions offer Master of Science degrees in Education. Also, three of these institutions offer two years of work in agriculture and all of them offer some work in the pre-professional fields.

After the 1965 legislation, two community junior colleges have been established which offer the full array of programs usually given at this type institution. Presently there are several areas of the State interested in developing such institutions, and it is predicted that this is the area of higher education which will grow fastest within the future.

There has been much discussion within past years concerning the void of State-supported education within the Central Arkansas area. As of the time of this writing, the University of Arkansas has proposed to merge with Little Rock University, a private institution located in Little Rock, and the new institution would become a branch of the University of Arkansas. If this were to take place, it would change vastly the picture of higher education within Central Arkansas.

The remaining thirteen institutions are private ones and their enrollment ranges from about 200 to 3, 300. All of these institutions offer programs which are concentrated around Liberal Arts and Education, and John Brown University also concentrates on some vocational work. Four of these thirteen institutions are junior colleges.

The total enrollment in all institutions of higher education in the Fall of 1967 was 46, 721. Of this total, 35, 171 were enrolled in State-supported institutions with the remaining 11, 550 enrolled in private institutions. The percentage of the total enrollment in private institutions has remained around 20 percent for several years, with a slight trend toward this being reduced as it is in other states throughout the nation. Elsewhere in this report is found a table giving enrollments by institutions.

The population of Arkansas in 1890 was 1, 128, 211 and by 1960 this had grown to 1, 786, 272.[1] During the 1950's, Arkansas experienced a loss of population due primarily to the migration of its citizens to other parts of the country. Since late 1950 the population has increased in its rate of growth and it closely approximates those of the United States and the Southern region.[2] The population density per square mile in Arkansas is less than any of its neighboring states, with the exception of Oklahoma. Also, the density within the state varies greatly with the Northern mountainous section at 21.2 persons per square mile and the highest in the East at 44.8 persons per square mile.[3] Arkansas, like many other states, has experienced the shift from a primarily agricultural society to that of a more urban society. In 1930 the rural population of the State was 89 percent of the total and by 1960 this had decreased 57 percent. In view of the change in distribution of population over the past years, it has been estimated that this shift will continue.

Over the past fifteen years, the increase in per capita income of Arkansas has kept pace with that of the United States. In 1950 the per capita income for the United States was $1, 491 and for Arkansas $815. By 1965 for the United States it was $2, 746 and $1, 850 for Arkansas.[4] According to recent information, the median years of school completed by Arkansas citizens is 8.9. This would place

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[1] Arkansas River Region, Comprehensive Development Plan 1980, Associated Planners, Inc., Little Rock, December, 1966.

[2] Ibid.

[3] Report of the Committee on Extension and Public Service Programs, 1968.

[4] Booze, Allen, and Hamilton, Inc., State Wide Educational Study Phase I, State of Mississippi, Chicago, December, 1966.

Arkansas as forty-third in the nation.[5] This factor will indicate that increase in educational opportunities in higher education, as well as all education, is imperative if Arkansas is to hold its place in the national scene. According to the 1965 Fall enrollments, those of college age attending college were 40.9 percent of the total college-age population in Arkansas. For the United States this same Fall, this percentage was 47.6. According to projections made by the Industrial Research and Extension Center, the college-age population of the State will continue to grow and the total for 1980 will be 160,406 as compared to 147,648 in 1970.

In view of the information presented in the above paragraph, it is clear that Arkansas must increase its educational opportunities for its citizens in order to keep pace with the economic and social development of the United States. Therefore, it will be necessary to construct many new and expanded facilities throughout the next few years in order that the state population can be educated to the extent which will be needed. These facilities are necessary to take care of the expanded enrollments and also facilities will be needed of a special nature in order for institutions to offer certain technical programs.

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[5] Macy, Harold, An Evaluation of Agricultural Programs and Services in Arkansas Public Institutions of Higher Learning, 1968.

LIMITATIONS OF THE STUDY

This Study includes twenty-three institutions of higher learning in Arkansas. Nine of the institutions are fully State-supported, two are community junior colleges supported by district and State funds, and the remaining twelve are private institutions. One private junior college, Shorter College, did not take part in the Study. A complete inventory and utilization of existing space, as well as a projection of additional needs for the 1975 and 1980 Fall terms, will be presented only for the nine State-supported institutions and the various agencies under the administrative control of the University of Arkansas.

This report reflects the activities conducted during Fiscal Year 1968, which embraces the period from July 1, 1967 through June 30, 1968. The Study is further limited to an inventory of existing space and a projection of physical facility needs grouped by a two dimensional classification. These dimensions are room type and functional use of the room. Space was not classified by the program or subject area which it served. At the beginning of the Study it was felt that since many of the institutions had not participated in a space inventory program of the magnitude planned for this Study, the inclusion of a third dimension might jeopardize the success of obtaining accurate data. Therefore, the classification of space by program or subject area was not included, but will be obtained when this initial Study is updated.

CONDUCTING THE STUDY

The collection of uniform and accurate space information was stressed in the development of the data collection system. In an effort to accomplish this objective, a space inventory and utilization manual was developed which contains definitions of terms, a classification system for room types and functional use of rooms, and an explanation of how areas should be measured and how utilization of facilities should be determined. Since this manual was prepared prior to the manual [6] published by the United States Office of Education, there are some variations between the two documents. With the exception of classification of space by program area, the two manuals are substantially the same.

To further insure that the facilities information would be consistent, presidents of all Arkansas institutions of higher learning were requested to appoint one person to be responsible for collecting data at the respective institution. These institutional representatives attended an orientation conference, the purpose of which was to explain the methods which were to be employed in the collection of the facilities data. After the manual had been presented to the institutional representatives and explained in the orientation conference, and they had had an opportunity to apply the methods outlined in the manual to the gathering of data on their campus, a member of the Commission staff and an architectural consultant visited each campus. The purpose of the campus visitation was to: 1) help the institutional representative apply the information contained in the manual to a specific situation on his campus, and 2) the architectural consultant examined each building which was classified by the institutional representative as either "temporary" or "obsolete". The architectural consultant, after an evaluation of the buildings classified as temporary or obsolete, utilized the criteria established by the Commission to determine the appropriate building classification for each of these structures.

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[6] Classification and Inventory Procedures for Institutions and State Agencies, 5th Draft, U. S. Office of Health, Education, and Welfare, Office of Education, August, 1967.

After the data were received by the Commission, several techniques were employed to verify the accuracy of the data. All data were checked for mathematical accuracy, the relationship of assignable to gross was examined in an effort to identify space which might have been omitted from the inventory and a review was made of the types of rooms assigned to the various functional use categories, in addition to numerous other types of reviews.

Several checkpoints were established to insure against machine errors which could possibly result from the electronic data processing analysis of the data. It is felt that as a result of all these efforts a high degree of accuracy and consistency was accomplished in the space inventory and utilization data.

Assumptions

The following assumptions were used as a basis for conducting the Study. The effect of some of these assumptions is very important, some are rather insignificant, some have a very direct effect, others indirect; but all of the assumptions have had some effect on the data which are presented in this Study.

1) The mission of the institutions will not change significantly. It was assumed that while the student enrollment at the institutions will continue to grow at a rather rapid rate, there will not be a major change in the relative position of each program area to all program areas taught at the institutions, nor will there be a major change in emphasis with respect to teaching, research and public service.

2) The application of space factors is more valid in determining statewide needs than in determining individual needs of institutions.

3) The space factors developed for the academic institutions should not be used in determining the physical facility needs for the various

agencies under the administrative control of the University of Arkansas. Since the mission of these agencies is different from that of the academic institutions, the additional physical facility needs of these agencies should be determined by an analysis of the programs which they conduct.

4) The change in teaching techniques will not materially affect the need for future space requirements. It would be very difficult, if not impossible, to anticipate the changes in teaching techniques which will occur between now and Fall, 1980. It is hoped that space requirements resulting from the changes in teaching techniques will have a counterbalancing effect, that is, those which would require additional space would be offset by those which would require less space.

5) The physical facilities which will remain in service through Fall, 1980 will continue to serve the same functional use they served during the 1967 Fall term.

DEVELOPMENT OF SPACE AND COST FACTORS

Since it is extremely difficult to determine the physical facility needs of academic institutions for long periods of time, there seems to be a tendency to rely on the use of space factors in making these projections. The attractiveness of using space factors in projecting physical facility needs is primarily due to the fact that it is not necessary to actually plan structures at the time of projection. In order to project the physical facility needs for the institutions of higher learning in Arkansas through 1980, space factors were developed for each functional use or major organizational unit of the academic institutions, except for the area of instruction which was divided into five subgroups.

The general approach taken in developing space factors was to review data related to present facilities on the campuses of the Arkansas institutions and to determine the spread among the various institutions with regards to the various types of space. It was then necessary to arrive at some factor which would insure that the statewide needs of a particular type of space would be satisfied. Throughout the development of these space factors information from various other states was collected, and in some cases influenced quite heavily the decision on the final space factor. It must be stressed that these space factors are to be utilized in determining statewide needs rather than needs for a particular institution. It is felt that the space factor could be applied to the situation at an individual institution if it were realized that the results would only be an indication of that institution's space needs. The following space factors are expressed in assignable rather than gross square feet.

General Classrooms

Three factors were considered in determining the amount of square feet of general classrooms needed to house the type of instruction normally conducted in this type facility, which includes lecture and lecture-demonstration rooms, seminar rooms and general-purpose classrooms.

First, the number of hours per week which students spend in classrooms receiving supervised instruction was considered. This is generally referred to as weekly student clock hours. Since the number of weekly student clock hours varies among institutions due to differences in programs, this variation was recognized in determining classroom needs in institutions.

It was recognized that utilization of classrooms has two dimensions, the first being the number of hours per week that a classroom is used and secondly, the number of seats or stations which are occupied when the room is in use. For the purposes of this Study, it is expected that the rooms will be used 30 hours per week with 60 percent of the stations being occupied during the 30 hours which the room will be in use. These utilization factors were chosen because of their acceptance as appropriate standards by planning groups in other states, and based on Fall, 1967 utilization in the Arkansas public institutions they appear to be attainable (see Table No. 3).

The third component of this space factor is the number of square feet needed per station. This was determined by dividing the total square footage of all classrooms by the number of students which can be comfortably seated in these classrooms. Fifteen square feet per station was chosen as the average space needed for each station. Again, this was based on the judgment of planning groups in other states, as well as actual experience at Arkansas public institutions, which indicates that it is the judgment of these groups that 15 square feet is required in classrooms to accommodate one seat or station (see Table No. 3).

When the two utilization factors, 30 hours per week with 60 percent station occupancy, are combined with the 15 square feet per station requirement, it can be stated that .83 square feet of classroom space is needed for each weekly student contact hour.

Table 3
CLASSROOMS - DATA FOR SPACE FACTOR

Institution	Square Feet Per Actual Station	Average Weekly Room Use 1/	% of Stations Used When Room is in Use 1/	ASF Per WSCH 2/
ARKANSAS PUBLIC INSTITUTIONS				
Arkansas A M & N College	14	25.3	55.4	1.000
Arkansas A & M College	15	15.6	66.3	1.460
Arkansas Polytechnic College	15	18.8	67.1	1.190
Arkansas State University	13	22.1	62.1	.950
ASU - Beebe Branch	13	20.0	67.1	.970
Henderson State College	15	27.9	62.0	.870
Southern State College	15	25.2	67.0	.890
State College of Arkansas	15	22.4	66.9	1.000
University of Arkansas	16	29.3	63.6	.860
AVERAGE	15			.980
SPACE FACTOR	15	30.0	60.0	.830
CALIFORNIA	15	34.0	66.0	.670
OKLAHOMA	16	30.0	67.0	.800
FLORIDA	15	30.0	60.0	.833
ILLINOIS	15	30.0	60.0	.833
TEXAS	15	30.0	50.0	1.000
VIRGINIA	15	30.0	60.0	.833

1/ Day only - until 5:00 p.m.
2/ Day and Night

Teaching Laboratories

Teaching laboratories, as used in this Study, will include laboratories or shops in which classes are taught on a regularly scheduled basis and are conducted under the direct supervision of faculty members. This category includes such rooms as science laboratories, art studios, group music studios, home economics laboratories, language laboratories, agricultural and engineering shops, etc.

The same general approach was used in the development of this space factor as was used in general classrooms, that is, a determination was made as to what is an attainable weekly room use, how many stations should be occupied when the room is in use and how many square feet of space should be provided for each station in the teaching laboratories.

After an examination of data regarding actual experiences of institutions in Arkansas (see Table No. 4) and the planning factors used by other states, it was determined that teaching laboratories should be used an average of 20 hours per week with 80 percent of the stations in use during 20 hours and the student station should contain an average of 50 square feet. The combined result of these three factors requires 3.13 square feet of assignable area in teaching laboratories for each weekly student contact hour produced in this type facility.

A partial explanation for choosing a lower room period use for teaching laboratories than that recommended for classrooms is due to blocked hours resulting from existing scheduling techniques and since these are specialized facilities which can be used only in teaching a specific subject, the utilization is limited to the institution's enrollment in this subject.

Table 4
TEACHING LABORATORIES - DATA FOR SPACE FACTOR

Institution	Square Feet Per Actual Station	Average Weekly Room Use 1/	% of Stations Used When Room is in Use 1/	ASF Per WSCH 2/
ARKANSAS PUBLIC INSTITUTIONS				
Arkansas A M & N College	37	18.9	85.5	2.28
Arkansas A & M College	33	9.4	72.2	4.85
Arkansas Polytechnic College	28	12.4	60.5	3.73
Arkansas State University	38	13.7	74.6	3.73
ASU - Beebe Branch	28	10.1	85.7	3.22
Henderson State College	34	13.9	75.3	3.24
Southern State College	37	12.8	60.6	4.74
State College of Arkansas	34	15.4	66.3	3.33
University of Arkansas	46	13.9	90.6	3.65
AVERAGE	37			3.52
SPACE FACTOR	50	20.0	80.0	3.13
OKLAHOMA	38-144	24.0	80.0	1.97-7.50
FLORIDA	25-125	19.0	75.0	1.75-8.77
ILLINOIS	68	20.0	80.0	4.25
TEXAS	75	20.0	75.0	5.00
VIRGINIA	40	20.0	80.0	2.50

1/ Day only - until 5:00 p.m.
2/ Day and Night

Physical Education Laboratories

Basketball courts, handball courts, exercise areas, swimming pools and other similar areas are included in this category. It does not include service areas which are normally contained in physical education buildings such as dressing rooms, shower rooms and seating areas. Again, only rooms which are used for regularly scheduled, supervised instruction are included. The space factor used for projecting physical education laboratory needs is nine square feet per weekly student clock hour to be taught in this type facility. Since very little data were available from other states as to physical education laboratory needs, a more heavy reliance was placed upon experiences of Arkansas institutions. It was found that the weighted average for State-supported institutions was 8.3 square feet per weekly student clock hour taught in physical education laboratories (see Table No. 5).

Nine square feet was used since some institutions with large facilities seem to have excessive space because their enrollments in activity physical education were small, while some large institutions appear to have insufficient space for their enrollments; therefore the upper and lower limits of the range were ignored.

Faculty Offices

This category includes office space for faculty members whose primary responsibility is teaching. The standard used will provide 130 square feet of space for each full-time equivalent teaching faculty member. This amount of square footage will be applied to the total estimated number of full-time equivalent teaching faculty for the Fall terms being considered in this Study.

Table 5
PHYSICAL EDUCATION LABORATORIES - DATA FOR SPACE FACTOR

Institution	Weekly Student Clock Hours	Total Assignable Square Feet	A. S. F. Per WSCH
ARKANSAS PUBLIC INSTITUTIONS			
Arkansas A M & N College	2,368	12,594	5.3
Arkansas A & M College	1,376	18,834	13.7
Arkansas Polytechnic College	1,195	13,328	11.2
Arkansas State University	2,130	25,796	12.1
ASU - Beebe Branch	1,104	7,170	6.5
Henderson State College	2,238	18,897	8.4
Southern State College	2,724	22,990	8.4
State College of Arkansas	2,045	10,483	5.1
University of Arkansas (Main Campus)	4,644	34,937	7.5
TOTAL/AVERAGE	19,824	165,029	8.3
SPACE FACTOR			9.0

The data shown in Table No. 6, under the columnar heading "Formula", were determined by using the same student-teacher ratios which are used for calculating teaching faculty needs for the academic institutions by the Commission on Coordination of Higher Educational Finance for biennial appropriation requests. This method of projecting faculty needs brings equality to the space factors since it recognizes the differences among institutions by assuming different student-teacher ratios for the various subject areas by levels of instruction. This method of estimating the number of full-time equivalent faculty needs should be considered an integral part of the space factor for faculty offices.

As reflected in Table No. 6, the 130 square feet recommended for each full-time equivalent teaching faculty approaches the norm both for Arkansas institutions and space factors which are used by other states.

Other Instructional Space

This category includes all other space which is directly related to the instructional program such as self-study laboratories; armory facilities; certain auditoriums; storage areas for classrooms, laboratories and offices; clerical offices; demonstration facilities used for instructional purposes, except farm facilities; and other similar facilities.

Since these facilities are related to the need for classrooms, teaching and physical education laboratories, and faculty offices, the factor recommended for other instructional space is 40 percent of the amount of space used for the previously mentioned categories of space. As shown in Table No. 7, , this standard will provide space slightly in excess of what is presently available for all but two State-supported institutions.

Table 6
FACULTY OFFICES - DATA FOR SPACE FACTOR

Institution	Square Feet Per Actual Station	Assignable Square Feet Per FTE Teaching Faculty	
		Actual	Formula*
ARKANSAS PUBLIC INSTITUTIONS			
Arkansas A M & N College	58	89	94
Arkansas A & M College	143	156	135
Arkansas Polytechnic College	141	167	139
Arkansas State University	110	147	113
ASU - Beebe Branch	74	78	64
Henderson State College	101	123	91
Southern State College	151	164	161
State College of Arkansas	118	114	85
University of Arkansas	109	123	171
AVERAGE	108	128	130
SPACE FACTOR			130
CALIFORNIA			110-160
FLORIDA			145
OKLAHOMA			126
TEXAS			120
ILLINOIS (Includes Service Area)			135
VIRGINIA			120

*Formula refers to the method used by the Arkansas Commission on Coordination of Higher Educational Finance to determine, for budget purposes, the FTE Teaching Faculty needs of an institution. Consideration is given to Program Areas and Levels of Instruction.

Table 7
OTHER INSTRUCTIONAL SPACE - DATA FOR SPACE FACTOR

Institution	Total Square Feet Classrooms, Teaching Labs, P. E. Labs and Faculty Offices	Total Square Feet Other Instructional Plus Organized Activities (Excluding Farm Facilities)	% Other Instructional and Organized Activities (Excluding Farm Facilities) are of Classrooms, Teaching and P. E. Labs and Faculty Offices
ARKANSAS PUBLIC INSTITUTIONS			
Arkansas A M & N College	112, 569	29, 204	26
Arkansas A & M College	100, 835	16, 008	16
Arkansas Polytechnic College	101, 219	32, 049	32
Arkansas State University	165, 360	64, 445	39
ASU - Beebe Branch	19, 395	3, 132	16
Henderson State College	94, 096	33, 962	28
Southern State College	89, 091	21, 230	24
State College of Arkansas	102, 927	43, 386	42
University of Arkansas	346, 116	142, 225	41
TOTAL/AVERAGE	1, 131, 608	385, 641	34
SPACE FACTOR			40

Administrative Space

Administrative space includes office and other space needed to provide services generally rendered by the central administrative unit of the institution. The space factor used is four square feet per full-time equivalent student. Even though this standard is comparable to that used by other states, it is slightly in excess of the square footage in Arkansas institutions, as can be seen in Table No. 8.

It is obvious from a detailed analysis of the existing space on Arkansas campuses that space for classrooms and other teaching facilities has in the past taken priority over the need for administrative space. Therefore, the four square feet per full-time equivalent student should allow the institutions to provide more adequate space for their administrative unit.

Organized Research

The following factors are used to determine square feet needs for organized research: one square foot per full-time equivalent Undergraduate student, 65 square feet per full-time equivalent Master level student and 820 square feet per full-time equivalent Doctoral student. Since there is a lack of information regarding the amount of space needed for research purposes, the above mentioned factors were developed by taking certain components from a formula used by the Commission to determine funds needed for organized research.

The research complexity factor of this formula, which gives weight to the increasing need for research at the Graduate level (.01 - Undergraduate, .50 - Master, 6.00 - Doctoral), was applied to the Fall enrollment at the University of Arkansas and the sum of these calculations, expressed as a percentage of the

Table 8
ADMINISTRATIVE SPACE - DATA FOR SPACE FACTOR

Institution	Total Square Feet	FTE Students	Square Feet Per FTE Student
ARKANSAS PUBLIC INSTITUTIONS			
Arkansas A M & N College	9,179	3,295	2.8
Arkansas A & M College	8,015	1,862	4.3
Arkansas Polytechnic College	9,429	2,463	3.8
Arkansas State University	15,102	5,550	2.7
ASU - Beebe Branch	1,115	532	2.1
Henderson State College	7,898	3,212	2.5
Southern State College	5,081	2,119	2.4
State College of Arkansas	12,643	3,582	3.5
University of Arkansas	35,691	9,785	3.6
TOTAL/AVERAGE	104,153	32,400	3.2
SPACE FACTOR			4.0
OKLAHOMA			5.0
TEXAS AND VIRGINIA			
First 2,000 Students			5.0
Next 3,000 Students			3.0
Second 5,000 Students			2.5
Third 5,000 Students			2.0
Beyond 15,000 Students			1.5

total, was then applied to the actual amount of space available at the University of Arkansas main campus, exclusive of the main campus Agricultural Experiment Station. Considerable time and effort by experienced people in this area should be given to the refinement of this standard at a later time. It is hoped that acceptable space factors will result from research symposiums which are to be conducted in other states in the very near future.

Library Facilities

The needed library space was determined by developing space factors for three components of the library.

Stack Space - The space needed for library holdings was developed as follows: That 25,000 volumes are needed for the first 600 full-time equivalent students, plus 8,000 volumes for each additional 200 full-time equivalent students, or fraction thereof. Once the total number of volumes to be housed has been determined, the space required to house these volumes will be determined by using the following:

Square Feet Per Volume	No. of Volumes
.10	first 150,000
.09	next 150,000
.08	next 300,000
.07	additional volumes.

Reader Space (Study Area) - The space requirement for study stations was determined by providing 6.25 square feet per full-time equivalent student. This space allowance will provide 25 square feet of space for 25 percent of an institution's full-time equivalent student body.

Library Service Area - Examples of the kinds of rooms found in this category are offices for professional library staff, student and other clerical workers; processing rooms; charging desks; etc. The library service area space will be determined by allowing 25 percent of the space required for reader and stack space.

All of the above mentioned space factors are modifications of space factors used by several other states and recommendations made by the Library Committee of the Arkansas Statewide Comprehensive Study of Higher Education. It is felt that a much better approach to determining the number of volumes needed can be developed by an analysis of volumes needed which gives weight to programs by subject area and level of instruction.

Future studies by the Library Committee and the Commission staff should result in a refinement of the space factor for volumes needed.

Public Service

This category includes offices and classrooms for extension and correspondence programs, certain auditoriums which are used primarily to serve publics other than the resident student body and other similar facilities. The recommended space factor for public service facilities is three percent of the total educational and general space requirements, excluding physical plant service areas. This space factor should be used only for planning purposes. Public service areas needed should be justified on the institution's program in this area for the detailed planning stages of needed structures.

Physical Plant Service

This includes space which is normally used by and under the control of a physical plant department of a college or university. The kinds of rooms which are normally found in the physical plant department are carpenter, electrical and plumbing shops; central warehouses; central heating and cooling plants; vehicle storage and other physical plant department space needed to maintain the physical facilities of an institution.

The space factor to be used for this type facility is 4.7 percent of all educational and general, and auxiliary space needs. This standard is slightly above the weighted average for Arkansas state-supported institutions (see Table No. 9). It is obvious from examining the physical plant service space available at several of the campuses that these facilities are inadequate. This type of space has been given a low priority in the consideration of additional space needs. This standard will allow certain Arkansas institutions to expand their physical plant department to the size which should be adequate to provide an improved physical plant operation.

ASSIGNABLE TO GROSS AREA

This factor is to be used in converting the assignable area of space needed as determined by using the previously mentioned ten space factors to gross area, or outside measurement. This conversion is necessary because most building costs are expressed in gross rather than assignable square feet.

The factor to be used for converting assignable to gross area is 70 percent. The assignable area represents 70 percent of the gross area. The space included in the conversion from assignable to gross consists of building service areas such as corridors, restrooms, janitor closets, mechanical rooms and space occupied by interior partitions and exterior walls.

Table 9
PHYSICAL PLANT SERVICE - DATA FOR SPACE FACTOR

Institution	Total Sq. Ft. Physical Plant Service	Total Square Feet Educational & General & Auxiliary Enterprises	% Physical Plant Service is of Educational & General & Auxiliary Enterprises
ARKANSAS PUBLIC INSTITUTIONS			
Arkansas A M & N College	11, 196	507, 711	2.2
Arkansas A & M College	17, 418	443, 664	3.9
Arkansas Polytechnic College	28, 940	526, 237	5.5
Arkansas State University	62, 090	1, 080, 787	5.7
ASU - Beebe Branch	2, 914	57, 815	5.0
Henderson State College	7, 028	418, 916	1.7
Southern State College	17, 091	481, 962	3.5
State College of Arkansas	11, 635	582, 548	2.0
University of Arkansas	89, 795	2, 239, 749	4.0
TOTAL/AVERAGE	248, 107	6, 339, 389	3.9
SPACE FACTOR			4.7

FLORIDA	Five Percent of Assignable Sq. Ft. of Residential and Non-Residential Space
TEXAS	Three Percent of Educational and General Assignable Sq. Ft. Plus Four Sq. Ft. Per FTE Undergraduate Student
VIRGINIA	Fifteen Percent of All Other Educational and General Space

An analysis of existing assignable and gross areas in the Arkansas state-supported institutions reveals that the assignable area is slightly above 70 percent of the gross area. The selection of the factor of 70 percent was based upon the fact that many of the buildings at the institutions are old buildings, which when they were constructed did not require as much circulation area as new buildings will require as the result of revised building codes.

COST FACTOR

A project cost of $29 per square foot will be applied to the estimated physical facility needs of the academic institutions for the 1975 and 1980 Fall terms. This cost factor is a result of analyzing data submitted to the Commission which were contained in applications for grant under the Higher Education Facilities Act of 1963. It represents all types of new buildings for four-year colleges and universities.

The estimated project cost of all new buildings for four-year colleges and universities, recommended for grant by the Commission during the period from November, 1964 through February, 1968, is $26 per gross square foot.

A current building cost index [7] was applied to the original estimated cost to convert it to a 1968 cost estimate. The resulting updated cost per square foot is $27.80. An additional $1.20 per square foot was added to the updated cost of $27.80 for movable furniture and equipment since many of the project equipment budgets were insufficient to adequately equip the facility. The inadequate equipment budget of many of the projects was the result of insufficient funds, and in many projects equipment and furniture were transferred from old structures to the new structures thereby eliminating the necessity to purchase some new equipment.

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[7] "Building Cost", Boeckh Division, The American Appraisal Company, 525 East Michigan Street, Milwaukee, Wisconsin.

COLLEGE ENROLLMENT PROJECTIONS

The method used in projecting student enrollments for the State-supported academic institutions of higher learning relies very heavily upon projected high school graduates and college-going rates of high school students. Different methods were used in projecting the in-state enrollments from that of out-of-state enrollments.

The first step in the projection of in-state enrollments for Arkansas state-supported academic institutions was the selection of a "drawing or service area" for each of the nine institutions. This "drawing area" was determined by grouping counties which furnish approximately 90 percent of an institution's in-state enrollment. Once an institution's "drawing area" was determined, a projection of high school graduates for that area was made by using the Cohort Survival method, whereby survival rates were developed for each of the grades one through twelve and to high school graduation. Actual enrollments of grades one through twelve and graduation for a period of five years were studied to determine appropriate survival ratios. The actual enrollments in these grades during the Fall term 1965 were advanced through the various grades using the survival ratios to determine the projected number of high school graduates for future years.

In order to relate the projected high school graduates to future in-state college enrollments, a college-going rate was developed by comparing a four-year high school moving total to the total in-state enrollment of an institution. This rate was determined for each of the previous five years. The increasing college-going rate was then applied to the projected four-year high school moving totals to determine the in-state enrollment for each of the nine institutions. The out-of-state enrollment was projected by increasing the present out-of-state enrollments by the average increase of out-of-state enrollments for the last five years. The total projected enrollment was determined by adding the projected out-of-state to the projected in-state enrollment.

Presented in Tables 10 and 11 respectively are the actual and projected Fall headcount enrollments for the State-supported academic institutions. As can be seen in these tables, headcount enrollment is expected to increase from 33,296 in 1967 to 71,293 in 1980, which represents an increase of 214 percent. Presented in Table No. 12 are the actual and projected full-time equivalent student enrollments for the Fall terms 1964 through 1967, 1970, 1975 and 1980. The projected enrollments for 1975 and 1980 were used in projecting future physical facility needs for the State-supported academic institutions. The full-time equivalent student enrollments for these Fall terms were arrived at by using a full-time equivalent to headcount factor which resulted from an analysis of the relationship of actual Fall headcount to actual student semester credit hours produced in previous years by these institutions.

The Committee on Junior Colleges and Vocational-Technical Programs of the Arkansas Statewide Study of Higher Education made the projection of student enrollments for the two public community junior colleges by relating the historical college-going rate for each institution to the projected college-age population

Table 10
ACTUAL FALL HEADCOUNT ENROLLMENTS FOR THE STATE-SUPPORTED ACADEMIC INSTITUTIONS

Institution	1962	1963	1964	1965	1966	1967
Arkansas A M & N College	2, 184	2, 181	2, 490	2, 801	2, 976	3, 288
Arkansas A & M College	1, 090	1, 148	1, 300	1, 560	1, 639	1, 849
Arkansas Polytechnic College	1, 499	1, 639	1, 695	2, 029	2, 202	2, 461
Arkansas State University	3, 313	3, 486	3, 886	4, 759	5, 169	5, 878
ASU - Beebe Branch	185	169	181	337	445	510
Henderson State College	1, 720	1, 707	2, 016	2, 484	2, 735	3, 127
Southern State College	1, 405	1, 476	1, 812	2, 177	2, 132	2, 209
State College of Arkansas	1, 973	1, 968	2, 184	2, 624	3, 214	3, 686
University of Arkansas	6, 864	7, 319	7, 864	9, 145	9, 875	10, 288
TOTAL	20, 233	21, 093	23, 428	27, 916	30, 387	33, 296

Table 11
PROJECTED FALL HEADCOUNT ENROLLMENTS FOR THE STATE-SUPPORTED ACADEMIC INSTITUTIONS

Institution	1970	1975	1980
Arkansas A M & N College	3,896	5,118	6,379
Arkansas A & M College	2,184	2,967	3,781
Arkansas Polytechnic College	2,955	4,011	5,106
Arkansas State University	7,745	11,536	16,046
ASU - Beebe Branch	709	1,065	1,470
Henderson State College	3,855	5,376	7,254
Southern State College	2,542	3,289	4,067
State College of Arkansas	4,599	6,659	9,001
University of Arkansas	11,882	15,025	18,189
TOTAL	40,367	55,046	71,293

Table 12

ACTUAL AND PROJECTED FULL-TIME STUDENT EQUIVALENT FALL TERM ENROLLMENTS FOR THE STATE-SUPPORTED ACADEMIC INSTITUTIONS

Fall Term	A M & N	A & M	APC	ASU	ASU-B	HSC	SSC	SCA	U. of A. Main Campus	Total
Actual										
1964	2,432	1,327	1,707	3,664	173	1,970	1,735	2,192	7,389	22,589
1965	2,672	1,583	2,036	4,478	329	2,436	2,138	2,615	8,710	26,997
1966	2,984	1,695	2,231	4,880	445	2,808	2,095	3,211	9,408	29,757
1967	3,295	1,862	2,463	5,550	532	3,212	2,119	3,582	9,785	32,400
Projected										
1970	3,906	2,260	2,995	7,313	709	3,963	2,629	4,592	11,359	39,726
1975	5,131	3,070	4,065	10,892	1,066	5,527	3,402	6,649	14,363	54,165
1980	6,395	3,913	5,175	15,151	1,471	7,458	4,207	8,988	17,388	70,146

of the county in which the institution is located. It was found that this college-going rate has in the past been increasing, and this increase was applied to the projected college-age population from which these institutions will draw a majority of their students. The college-age population of the county in which the institution is located was chosen as the base for projecting enrollments for these institutions since they are commuter colleges, thereby drawing very heavily upon the home county for their students. The actual and projected student enrollments for the public community junior colleges can be found in Tables 13 and 14.

The enrollments shown in these tables for the public community junior colleges are limited to a projection of enrollments of the two existing institutions. The Committee on Junior Colleges and Vocational-Technical Programs projected enrollments for seven additional community junior colleges which are needed but at the present time have not been established. Since firm plans have not been developed for the establishment of these seven additional institutions, they were not included in this report.

Because of such factors as irregular growth patterns, large out-of-state enrollments and other factors affecting many of the private institutions, it was determined that it would be unwise to attempt to project the enrollments of the private institutions by using the same method which was used in projecting enrollments for the State institutions where the number of Arkansas high school graduates was used as a base for enrollment projections. As an alternative to this procedure, enrollment projections for the private institutions were made by consultation with college personnel. During these discussions, consideration was given to the historical growth pattern of the institution; the future role of the institution, especially in the areas of anticipated recruitment and admissions policies;

and factors which might tend to limit the student enrollment capability of the institutions even though more and more students may be seeking admission to these colleges. Some of the limiting factors which were considered were such things as the institution's financial inability to provide necessary housing, the institution's unwillingness to increase student fees to help offset ever increasing operating costs and governing board's policies to limit the student body to a fixed numerical enrollment.

Table No. 13 shows the actual Fall headcount enrollments for the private institutions for the Fall terms 1962 through 1967, and Table No. 14 shows the projected Fall headcount enrollments for these institutions for the Fall terms 1975 and 1980. When considering the total student enrollment for all institutions of higher learning in Arkansas, it is interesting to note that the private institutions enrolled approximately 25 percent of the State's college enrollment during the 1967 Fall term (see Table No. 15), and if the projected enrollments materialize for all institutions of higher learning for the 1980 Fall term, they will have 24 percent of the 99, 098 student enrollment.

EXISTING FACILITIES

An inventory of existing physical facilities is vital to the projection of additional space needs, since it is virtually impossible to determine additional needs until a determination has been made as to the quantity, quality and the utilization of existing facilities. Therefore, the first phase of this Study was to seek answers to these questions. As a result of this inventory and utilization of existing facilities, many pertinent facts regarding existing facilities were revealed.

Table 13
ACTUAL FALL HEADCOUNT ENROLLMENTS FOR THE PUBLIC COMMUNITY JUNIOR COLLEGES AND PRIVATE INSTITUTIONS

Institution	1962	1963	1964	1965	1966	1967
PUBLIC COMMUNITY JUNIOR COLLEGES:						
Phillips County Community Junior College					242	319
Westark Community Junior College		1, 346	1, 327	1, 463	1, 574	1, 556
TOTAL		1, 346	1, 327	1, 463	1, 816	1, 875
PRIVATE INSTITUTIONS:						
Arkansas College	263	294	327	336	330	285
College of the Ozarks	410	403	415	470	486	587
Harding College	1, 164	1, 116	1, 228	1, 472	1, 741	1, 919
Hendrix College	627	572	678	767	783	886
John Brown University	364	435	520	652	664	750
Little Rock University	1, 780	2, 191	2, 491	3, 054	3, 238	3, 256
Ouachita Baptist University	1, 269	1, 260	1, 405	1, 785	1, 881	1, 683
Southern Baptist College	200*	266	384	615	691	686
Central Baptist College	200*	187	191	214	246	204
Crowley's Ridge Junior College				227	214	183
Philander Smith College	618	553	532	628	671	634
Shorter College	238	199	211	200	229	201
Arkansas Baptist College	200	199	281	230	194	276
TOTAL	7, 333	7, 675	8, 663	10, 650	11, 368	11, 550

*Estimates

Table 14
PROJECTED FALL HEADCOUNT ENROLLMENTS FOR THE PUBLIC COMMUNITY JUNIOR COLLEGES AND PRIVATE INSTITUTIONS

Institution	1970	1975	1980
PUBLIC COMMUNITY JUNIOR COLLEGES:			
*Phillips County Community Junior College	611	1, 142	1, 773
*Westark Community Junior College	1, 318	1, 623	2, 063
TOTAL	1, 929	2, 765	3, 836
PRIVATE INSTITUTIONS:			
Arkansas College	530	600	600
College of the Ozarks	700	825	1, 000
Harding College	2, 352	3, 300	4, 628
Hendrix College	1, 000	1, 200	1, 200
John Brown University	1, 000	1, 250	1, 250
Little Rock University	4, 396	6, 296	8, 200
Ouachita Baptist University	1, 905	2, 024	2, 341
Southern Baptist College	775	850	850
Central Baptist College	300	500	700
Crowley's Ridge Junior College	250	400	600
Philander Smith College	825	1, 025	1, 400
Shorter College	300	350	400
Arkansas Baptist College	400	600	800
TOTAL	14, 733	19, 220	23, 969

*Enrollment Projections for these institutions are full-time equivalent rather than headcount.

Table 15
SUMMARY OF ACTUAL AND PROJECTED FALL HEADCOUNT ENROLLMENTS FOR ARKANSAS COLLEGES AND UNIVERSITIES

Fall Term	State-Supported Academic Institutions	Public Community Junior Colleges	Private Institutions	Grand Total
Actual				
1962	20,233	-----	7,333	27,566
1963	21,093	1,346	7,675	30,114
1964	23,428	1,327	8,663	33,418
1965	27,916	1,463	10,650	40,029
1966	30,387	1,816	11,368	43,571
1967	33,296	1,875	11,550	46,721
Projected				
1970	40,367	1,929*	14,733	57,029
1975	55,046	2,765*	19,220	77,031
1980	71,293	3,836*	23,969	99,098
No. of Institutions	9	2	13	24

*Full-time Equivalent Enrollments

Quantity of Buildings

Data in Table No. 16 report that the nine State-supported institutions have in excess of nine million gross square feet of buildings with approximately 3.7 million of these gross square feet being devoted to educational and general or academic purposes. These facilities serve 32,400 full-time equivalent students. The educational and general plant alone, based on 1968 costs, would require an expenditure of more then 100 million dollars to replace. The same type information is presented in Tables A1 and A2 in the Appendix for the public community junior colleges and for some of the private institutions for which the data are presently available.

Information in Table No. 18 indicates that of the 3.7 million gross square feet, 2.7 million is available as assignable area to be used for the various functions which are performed by the State-supported academic institutions. Data in this table reveal that 66 percent of the usable area in existing facilities is devoted to instruction and library purposes.

In an attempt to evaluate the overall adequacy of existing facilities in relation to the demand placed upon these facilities by student enrollments, Table No. 19 is presented which shows the amount of educational and general assignable square feet per full-time equivalent student by function for each of the State-supported academic institutions. At first glance there appears to be an unexplained wide variation in the amount of assignable square feet per full-time equivalent student among the nine schools. Careful analysis reveals that among the institutions which are of similar size and program, the square footage per student is surprisingly comparable. With the elimination of functions such as farm facilities

Table 16
GROSS SQUARE FEET OF ALL EXISTING FACILITIES BY CONDITION OF BUILDING FOR THE STATE-SUPPORTED ACADEMIC INSTITUTIONS AS OF THE 1967 FALL TERM

Institution	Total	Temporary	Permanent	Obsolete
Arkansas A M & N College	686, 151	37, 042	646, 741	2, 368
Arkansas A & M College	609, 380	58, 445	535, 715	15, 220
Arkansas Polytechnic College	767, 371	20, 042	694, 019	53, 310
Arkansas State University	1, 577, 135	111, 649	1, 385, 731	79, 755
ASU - Beebe Branch	76, 539	651	59, 888	16, 000
Henderson State College	594, 264	25, 319	568, 945	------
Southern State College	653, 320	13, 339	570, 385	69, 596
State College of Arkansas	834, 320	22, 850	811, 470	------
University of Arkansas	3, 246, 984	339, 424	2, 784, 856	122, 704
TOTAL	9, 045, 464	628, 761	8, 057, 750	358, 953

Table 17

EDUCATIONAL AND GENERAL GROSS SQUARE FEET BY CONDITION OF BUILDING FOR THE STATE-SUPPORTED ACADEMIC INSTITUTIONS AS OF THE 1967 FALL TERM

Institution	Total	Temporary	Permanent	Obsolete
Arkansas A M & N College	339,582	17,928	319,286	2,368
Arkansas A & M College	259,138	35,645	222,519	974
Arkansas Polytechnic College	283,197	20,042	222,186	40,969
Arkansas State University	580,601	11,800	490,946	77,855
ASU - Beebe Branch	41,650	359	41,291	------
Henderson State College	240,436	11,573	228,863	------
Southern State College	249,836	10,933	197,531	41,372
State College of Arkansas	291,786	3,200	288,586	------
University of Arkansas	1,439,393	254,461	1,074,207	110,725
TOTAL	3,725,619	365,941	3,085,415	274,263
PERCENT OF TOTAL	100.0%	9.8%	82.8%	7.4%

Table 18

EDUCATIONAL AND GENERAL ASSIGNA
BY FUNCTION FOR THE STATE-SUPPORTED
AS OF THE 1967 FALL T

Functional Use of Facilities	AM & N	A & M	APC	ASU	ASU-B
INSTRUCTION					
Classrooms	48,199	35,353	39,832	68,713	6,039
Teaching Laboratories	37,163	34,937	32,720	41,584	4,787
Physical Education Laboratories	12,594	18,834	13,328	25,796	7,170
Faculty Offices	14,613	11,711	15,339	29,267	1,399
Other Instructional Space	29,204	16,008	32,049	64,445	3,132
TOTAL - Instruction	141,773	116,843	133,268	229,805	22,527
RESEARCH	-------	934	-------	1,880	-----
PUBLIC SERVICE	------	------	------	12,207	-----
LIBRARY	38,749	24,564	22,665	31,996	1,502
FARM FACILITIES	46,311	23,336	14,445	39,941	4,800
ADMINISTRATION AND GENERAL	9,179	8,015	9,429	15,102	1,115
PHYSICAL PLANT SERVICE	11,196	17,418	28,940	62,090	2,914
TOTAL - ASSIGNABLE	247,208	191,110	208,747	393,021	32,858
FTE STUDENTS	3,295	1,862	2,463	5,550	532

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Table 18
NERAL ASSIGNABLE SQUARE FEET
E-SUPPORTED ACADEMIC INSTITUTIONS
HE 1967 FALL TERM

SU	ASU-B	HSC	SSC	SCA	U. of A. Main Campus	TOTAL
, 713	6, 039	39, 114	23, 587	45, 956	121, 077	427, 870
, 584	4, 787	22, 936	26, 935	31, 420	101, 208	333, 690
5, 796	7, 170	18, 897	22, 990	10, 483	34, 937	165, 029
9, 267	1, 399	13, 149	15, 579	15, 068	88, 894	205, 019
4, 445	3, 132	33, 962	21, 230	43, 386	142, 225	385, 641
9, 805	22, 527	128, 058	110, 321	146, 313	438, 341	1, 517, 249
1, 880	-----	------	189	1, 439	147, 440	151, 882
2, 207	-----	------	-----	3, 774	28, 156	44, 137
1, 996	1, 502	29, 340	9, 041	37, 826	66, 073	261, 756
9, 941	4, 800	------	55, 807	------	199, 972	384, 612
5, 102	1, 115	7, 898	5, 081	12, 643	35, 691	104, 153
2, 090	2, 914	7, 028	17, 091	11, 635	89, 795	248, 107
93, 021	32, 858	172, 324	197, 530	213, 630	1, 055, 468	2, 711, 896
5, 550	532	3, 212	2, 119	3, 582	9, 785	32, 400

Table 19

EDUCATIONAL AND GENERAL ASSIGNAB
PER FULL-TIME EQUIVALENT STUDEN
FOR THE STATE-SUPPORTED ACADEMI
AS OF THE 1967 FALL TE

Functional Use of Facilities	AM & N	A & M	APC	ASU	ASU-B
INSTRUCTION					
Classrooms	14.6	19.0	16.2	12.4	11.4
Teaching Laboratories	11.3	18.8	13.3	7.5	9.0
Physical Education Laboratories	3.8	10.1	5.4	4.6	13.5
Faculty Offices	4.4	6.3	6.2	5.3	2.6
Other Instructional Space	8.9	8.6	13.0	11.6	5.9
TOTAL - Instruction	43.0	62.8	54.1	41.4	42.4
RESEARCH	----	.5	---	.3	---
PUBLIC SERVICE	----	----	---	2.2	---
LIBRARY	11.8	13.2	9.2	5.8	2.8
FARM FACILITIES	14.0	12.5	5.9	7.2	9.0
ADMINISTRATION AND GENERAL	2.8	4.3	3.8	2.7	2.1
PHYSICAL PLANT SERVICE	3.4	9.3	11.7	11.2	5.5
TOTAL - Assignable Sq. Ft.	75.0	102.6	84.7	70.8	61.8
FTE STUDENTS	3,295	1,862	2,463	5,550	532

Table 19
ERAL ASSIGNABLE SQUARE FEET
VALENT STUDENT BY FUNCTION
ORTED ACADEMIC INSTITUTIONS
1967 FALL TERM

ASU	ASU-B	HSC	SSC	SCA	U. of A. Main Campus	AVERAGE
2.4	11.4	12.2	11.1	12.8	12.4	13.2
7.5	9.0	7.1	12.7	8.8	10.3	10.3
4.6	13.5	5.9	10.8	2.9	3.6	5.1
5.3	2.6	4.1	7.4	4.2	9.1	6.3
11.6	5.9	10.6	10.0	12.1	14.5	11.9
41.4	42.4	39.9	52.0	40.8	49.9	46.8
.3	---	---	.1	.4	15.1	4.7
2.2	---	---	---	1.1	2.9	1.4
5.8	2.8	9.1	4.3	10.6	6.8	8.1
7.2	9.0	---	26.3	----	20.4	11.9
2.7	2.1	2.4	2.4	3.5	3.6	3.2
11.2	5.5	2.2	8.1	3.2	9.2	7.6
70.8	61.8	53.6	93.2	59.6	107.9	83.7
,550	532	3,212	2,119	3,582	9,785	32,400

and research which do not necessarily need to grow in direct proportion to enrollment growths, the number of square feet per full-time equivalent student for all institutions is very close.

Other factors which contribute to varying amounts of square feet per full-time equivalent student are enrollment and the time schedule for adding new facilities. Since institutions with small enrollments must have certain specialized facilities, regardless of their enrollment size, their square feet of space per student will necessarily be larger than that of the larger institutions.

It is very difficult to match physical facility needs to student enrollments because when a building is constructed it is usually designed to accommodate not only existing student enrollments but future enrollments. This occurs because it is not economically feasible to construct a specialized facility to accommodate only existing enrollments. Therefore, at times there is an imbalance between available facilities and existing enrollments. In some cases the facilities will exceed the desired amount of space per student and at other times it will be insufficient to accommodate the existing enrollment.

In addition to the 2.7 million assignable square feet available for educational and general purposes, the State-supported academic institutions also have 3.6 million assignable square feet devoted to auxiliary enterprises (see Table No. 20). This table presents the assignable square feet by types of auxiliary enterprises. It is interesting to note that approximately 88 percent of all auxiliary enterprise space is devoted to dining and residential facilities which primarily serve the students, faculty and staff of the institution.

Table 20
AUXILIARY ENTERPRISES ASSIGNABLE SQUARE FEET FOR THE STATE-SUPPORTED ACADEMIC INSTITUTIONS AS OF THE 1967 FALL TERM

Institution	Athletic	Food Facilities	Residential	Student Health	Other Auxiliary Enterprises	Total
Arkansas A M & N College	14,778	15,102	205,690	3,086	21,847	260,503
Arkansas A & M College	2,373	16,794	219,688	-----	13,699	252,554
Arkansas Polytechnic College	8,395	18,932	266,431	1,346	22,386	317,490
Arkansas State University	41,960	41,656	514,187	716	89 247	687,766
ASU - Beebe Branch	76	4,667	19,649	-----	565	24,957
Henderson State College	4,371	21,231	206,097	307	14,586	246,592
Southern State College	5,929	15,106	252,119	1,452	9.826	284,432
State College of Arkansas	12,022	23,418	291,451	469	38,522	365,882
University of Arkansas	67,524	132,983	911,666	10,819	61,289	1,184,281
TOTAL	157,428	289,889	2,886,978	18,195	271,967	3,624,457

The category entitled "Other Auxiliary Enterprises" in this table includes such facilities as merchandising, lounge, recreational and other such activities. See Table No. A4 in the Appendix for an analysis of the auxiliary enterprise space for the public community junior colleges and private institutions.

Quality of Buildings

The major emphasis used in evaluating the qualitative structural aspects of buildings on the college campuses was accomplished by classifying the buildings in three categories: Temporary, Permanent and Obsolete. The criteria used in judging the condition of the buildings is as follows:

> Temporary - A building was classified temporary if it was of wood construction and/or constructed to serve for a short time only.
>
> Permanent - A building was classified as permanent if the building was of a permanent-type construction such as brick or masonry, and if the condition of the building was such that it was considered to be usable for several years with normal maintenance and upkeep.
>
> Obsolete - A building was judged obsolete if on the advise of an architectural consultant employed by the Commission the structure was considered unsafe for use, or it was determined by the architectural consultant that the building would require major renovation to make it adequate and that the cost of such renovation of the building would generally exceed 60 percent of the cost of a new structure of like character.

Each institution was asked to classify their buildings into one of the three categories. Those which were judged to be temporary or obsolete by the institution were examined by the architectural consultant, and after applying the criteria to the building the consultant determined the appropriate classification for each building.[8] Table No. 16 summarizes the judgment of the architectural consultant as to the condition of all existing structures at the State-supported academic institutions. Table No. 17 reflects the same judgment for the educational and general space.

Of the 3.7 million gross square feet of area, three million or 83 percent of this space is contained in permanent buildings, with the remaining space being in temporary and obsolete structures. Most of the 366,000 square feet of space classified as temporary consist of farm buildings, physical plant shops and some World War II surplus buildings which are still being used for academic purposes.

In the case of farm buildings, they were originally designed to serve agricultural purposes and most institutions plan to leave these buildings in service as long as they are capable of fulfilling their intended purpose. The temporary buildings, especially those which are of wood-frame construction and are located in or near the academic complex, are planned to be removed at the earliest possible time, since they distract from the physical environment of the academic complex and most of these structures were not built originally to accommodate the activities or functions which are presently being conducted in them.

Buildings which are classified as obsolete will also be removed from service at an early future date because in most instances they have also become functionally obsolete, as well as structurally obsolete. Many of these buildings need to be removed to provide space for taller and larger buildings which will better utilize the existing land available to the institution. Tables A1 and A2 are presented in the Appendix and show the building conditions for the public community junior colleges and private institutions.

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[8] Space Inventory and Utilization Study, Building Inspection Results, Associated Planners, Inc., Little Rock, December, 1967.

Since an increased emphasis is being placed upon effective year-round utilization of academic facilities, it will be necessary to have air-conditioned facilities. Table No. 21 analyzes the educational and general gross square feet of space which are air-conditioned and non-air-conditioned. Of the 3.7 million square feet in use at the State-supported academic institutions, only 1.4 million is air-conditioned. A portion of the total area would not be expected to have air-conditioning. These facilities would include farm buildings, physical plant shops, storage buildings and other similar facilities. During the past few years as the institutions have completed renovation projects on old buildings, they have included air-conditioning units in the renovation projects. This, coupled with adding new structures which are air-conditioned, has increased the amount of air-conditioned space on the various campuses. However, several institutions which should have most of their academic facilities air-conditioned have less than half of them air-conditioned. See Table No. A5 for an analysis of the air-conditioned and non-air-conditioned areas at the public community junior colleges and private institutions.

In addition to the space previously discussed for the nine State-supported academic institutions, the public community junior colleges and the private institutions, approximately 885 thousand gross square feet of space was being used for educational and general purposes by the various off-campus agencies

Table 21
AIR-CONDITIONED EDUCATIONAL AND GENERAL GROSS SQUARE FEET FOR THE STATE-SUPPORTED ACADEMIC INSTITUTIONS AS OF THE 1967 FALL TERM

Institution	Total	Air-Conditioned	Non-Air-Conditioned
Arkansas A M & N College	339, 582	166, 764	172, 818
Arkansas A & M College	259, 138	152, 647	106, 491
Arkansas Polytechnic College	283, 197	136, 154	147, 043
Arkansas State University	580, 601	290, 003	290, 598
ASU - Beebe Branch	41, 650	2, 718	38, 932
Henderson State College	240, 436	188, 017	52, 419
Southern State College	249, 836	75, 823	174, 013
State College of Arkansas	291, 786	203, 483	88, 303
University of Arkansas	1, 439, 393	201, 416	1, 237, 977
TOTAL	3, 725, 619	1, 417, 025	2, 308, 594

of the University of Arkansas. This square footage does not include the space available at the off-campus Agricultural Experiment Stations. The 885 thousand gross square feet provides 532 thousand square feet of assignable area and includes approximately 12 thousand square feet of assignable area which is rented by the University of Arkansas for the Little Rock division of the School of Law and the Graduate School of Social Work. It includes 121 thousand assignable square feet on the Technology Campus of the University of Arkansas, which serves the Graduate Institute of Technology, the Industrial Research and Extension Center, State offices for the Agricultural Extension Service, the Graduate Extension Center and approximately 55 thousand square feet which is rented to a private research concern. It is the intention of the University of Arkansas to convert this rented space to facilities which can be used for the expansion of programs by the various agencies housed at the Technology Campus. The University of Arkansas Medical Center at Little Rock accounts for approximately 400 thousand of the total 532 thousand square feet of assignable area.

The Technology Campus building, while it is an old structure, is in relatively good condition and has been classified as a permanent structure, even though the area rented to a private concern will require renovation and conversion to allow this space to be used to serve the agencies on this campus. The buildings at the University of Arkansas Medical Center were all constructed since the mid-1950's and are classified as permanent.

Utilization of Facilities

A summary of the utilization of classrooms and teaching laboratories for the State-supported academic institutions during the 1967 Fall term can be found in

Tables 22 and 23. When examining the data in these tables, it should be remembered that the level of utilization for these direct teaching facilities can be affected by many factors, some of which are available physical facilities, scheduling techniques, relationship of class size to room size and other factors anyone of which when change occurs can materially affect the utilization of these facilities.

In light of the space factors developed in this Study for classroom utilization (room use 30 hours per week with 60 percent of the stations being used when the room is in use) and teaching laboratories (20 hours per week with 80 percent student station occupancy), it becomes obvious that some of the institutions can accommodate additional students by better utilization of existing facilities.

In the case of classrooms, with the exception of one institution, the utilization of student stations when the room is in use exceeds the recommended 60 percent, which indicates that the average student stations per room and the average class size are related in such a way to reflect the space factor. Projected enrollment increases for the next two or three years are more than sufficient to bring the classroom utilization for most of the institutions to the desired level of 30 hours per week.

The same statement could generally be applied to the utilization of teaching laboratories. Most of the institutions have not yet reached the desired level of 80 percent student station occupancy, which would indicate that the number of stations per room and the class size have not been brought into balance as well as they have in classrooms. This problem can be at least partially eliminated by

Table 22
CLASSROOM UTILIZATION AT THE STATE-SUPPORTED ACADEMIC INSTITUTIONS DURING THE 1967 FALL TERM

Institution	Average Hourly Room Use Per Week			Percent of Stations Used When Room is Used		
	Day	Night	Total	Day	Night	Total
Arkansas A M & N College	25.3	---	25.3	55.4	-----	55.4
Arkansas A & M College	15.6	.1	15.7	66.3	100.0	67.3
Arkansas Polytechnic College	18.8	.4	19.2	67.1	41.8	66.2
Arkansas State University	22.1	2.5	24.6	62.1	39.3	59.8
ASU - Beebe Branch	20.0	1.8	21.8	67.1	50.7	65.7
Henderson State College	27.9	.8	28.7	62.0	40.6	61.4
Southern State College	25.2	1.1	26.3	67.0	55.7	66.6
State College of Arkansas	22.4	1.0	23.4	66.9	26.1	65.1
University of Arkansas	29.3	.6	29.9	63.6	40.8	63.2

Table 23
UTILIZATION OF TEACHING LABORATORIES AT THE STATE-SUPPORTED ACADEMIC INSTITUTIONS DURING THE 1967 FALL TERM

Institution	Average Hourly Room Use Per Week			Percent of Stations Used When Room is Used		
	Day	Night	Total	Day	Night	Total
Arkansas A M & N College	18.9	2.5	21.4	85.5	35.6	79.7
Arkansas A & M College	9.3	.1	9.4	72.2	34.0	72.3
Arkansas Polytechnic College	12.4	1.3	13.7	60.5	11.0	55.8
Arkansas State University	13.7	1.1	14.8	74.6	52.0	72.8
ASU - Beebe Branch	10.1	---	10.1	85.7	----	85.7
Henderson State College	13.9	---	13.9	75.3	----	75.3
Southern State College	12.8	.2	13.0	60.6	60.4	60.6
State College of Arkansas	15.4	.3	15.7	66.3	51.9	66.1
University of Arkansas	13.9	.2	14.1	90.6	100.0	90.9

better designed facilities in the future and improved scheduling techniques as enrollments expand in existing programs which require specialized facilities.

The average hourly room period use is divided into day, night and total. The average number of hours a room is used per week for regularly scheduled, supervised instruction for each institution during the day represents those rooms which are scheduled for use between the first morning class until 5:00 p.m. The hours scheduled at night are the courses taught beginning at five o'clock. Classrooms are used more during the night periods than are the teaching laboratories and, with the exception of one or two institutions, even the contribution of night utilization of classrooms has a very insignificant effect on the total utilization of these facilities.

Since classrooms and teaching laboratories represent a small portion of the total educational and general space available to and used by the institution, the utilization of teaching facilities should not be overemphasized in the analysis of utilization of all facilities available to the institution. Utilization of facilities, other than direct teaching space, can be found in Table No. 19 and the tables contained in the section of this report which deals with the development of space factors. Tables A6 and A7 are presented in the Appendix for the public community junior colleges and private institutions and present utilization of classrooms and teaching facilities.

Land

Analyses of all land under the control of the Arkansas institutions of higher learning, with the exception of the University of Arkansas off-campus Agricultural Experiment Stations and Shorter College, are presented in Tables No. 24 , 25, A8 and A9. With the exception of two of the State-supported academic institutions, all land under the control of these institutions is owned in fee simple. This fact is very significant since unrestricted title to land affords an institution the opportunity to develop long-range plans for land use without the interference of outside interests.

Another significant factor in the development of future planned use of land is location. Since it is usually desirable to develop academic complexes on contiguous land, the portion of all land under the control of the institution which is located on the main campus is of vital concern to the institution. Over half of all land under the control of the State-supported academic institutions is located on the main campus.

The wide variation in the size of the main campuses in relation to student enrollments of the institutions can be accounted for in part by the fact that the institutions which have large main campuses have college farms which are contiguous to the main campus.

Since most of the institutions are surrounded by land with market values which continue to spiral upward, it is becoming more and more important that these institutions obtain the best possible utilization of their existing land.

Table No. 24
LAND INVENTORY BY CONTROL OF LAND FOR THE STATE-SUPPORTED ACADEMIC INSTITUTIONS AND THE MEDICAL CENTER AS OF THE 1967 FALL TERM

Institution	In Fee Simple	Restricted Rights	Leased	Total
Arkansas A M & N College	322	--	201	523
Arkansas A & M College	1,654	--	---	1,654
Arkansas Polytechnic College	488	--	---	488
Arkansas State University	1,798	--	---	1,798
ASU - Beebe Branch	318	--	---	318
State College of Arkansas	200	20	---	220
Henderson State College	108	--	---	108
Southern State College	658	--	---	658
University of Arkansas	1,050	--	---	1,050
University of Arkansas Medical Center	-----	26	---	26
TOTAL	6,596	46	201	6,843

Table 25
LAND INVENTORY BY LOCATION OF LAND FOR THE STATE-SUPPORTED ACADEMIC INSTITUTIONS AND THE MEDICAL CENTER AS OF THE 1967 FALL TERM

Institution	Main Campus (Contiguous)	One Mile Radius of Main Campus	Over One Mile From Main Campus	Total
Arkansas A M & N College	103	420	---	523
Arkansas A & M College	842	---	812	1,654
Arkansas Polytechnic College	488	---	---	488
Arkansas State University	825	4	969	1,798
ASU - Beebe Branch	318	---	---	318
State College of Arkansas	220	---	---	220
Henderson State College	108	---	---	108
Southern State College	658	---	---	658
University of Arkansas	307	---	743	1,050
University of Arkansas Medical Center	26	---	---	26
TOTAL	3,895	424	2,524	6,843

ESTIMATED PHYSICAL FACILITY NEEDS

The projection of physical facility needs for the 1975 and 1980 Fall terms is limited to academic facilities for the State-supported institutions of higher education. Estimates of academic facility needs for the public community junior colleges and private institutions, and auxiliary enterprise facilities for all Arkansas institutions of higher learning will be the subject of concern in Fiscal Year 1969.

The public institutions of higher learning were divided into two categories for the purpose of estimating facility needs. The nine State-supported academic institutions, including the University of Arkansas main campus, were placed in a category entitled academic institutions, and the off-campus educational agencies of the University of Arkansas were placed in the second category. Since the role of these other educational agencies differs from that of the nine academic institutions, a different methodwas used in determining the physical facility needs of these agencies. The one common element used in projecting facility needs found in both categories is that of determining the total physical facility needs and deducting the available space to arrive at the additional space needs for the years 1975 and 1980.

Facility Needs for Academic Institutions

Facility needs for Arkansas institutions were determined for each of the eleven functional units of these institutions by the use of space factors which are discussed on pages 18 through 33 of this report. The following discussion of the method used in determining space needs for each functional unit is limited to total needs, rather than additional needs since the determination of available space is the same for each functional unit.

Once the total space need for each function is determined, the amount of space expected to be available in the 1975 and 1980 Fall terms, which is arrived at by taking the facilities in use in the 1967 Fall term and deleting the buildings which the institutions plan to remove from service, and adding those facilities which were under construction at that time or facilities for which financing has been arranged, was taken from the total needs and represents the additional needs for those Fall terms.

Total space needs for the various functional units of the institution were determined in the following manner:

General Classroom, Teaching Laboratory and Physical Education Laboratory needs were determined by applying the space factor for each of these functions to the weekly student clock hours for these facilities for the 1975 and 1980 Fall terms. The relationship of weekly student clock hours in these facilities was related to the total full-time equivalent enrollment for each institution for the 1967 Fall term. It was found that on the average there are 13.4 weekly student contact hours in classrooms for each full-time equivalent student, with an average of 2.9 in teaching laboratories and .6 weekly student contact hours per full-time equivalent student in physical education laboratories.

There were variations above and below these averages among the various institutions, as a result of differences in their programs. The number of weekly student contact hours projected for the 1975 and 1980 Fall terms was based upon the relationship of clock hours to full-time equivalent enrollment during the 1967 Fall term.

For each weekly student contact hour in classrooms .83 assignable square feet was made available, with 3.13 assignable square feet for each clock hour in teaching laboratories and nine assignable square feet for each weekly student contact hour to be taught in physical education facilities.

Total physical facility needs for Faculty Offices were determined by allowing 130 assignable square feet for each full-time equivalent teaching faculty member. An estimate of full-time equivalent teaching faculty for the 1975 and 1980 Fall terms was determined by assuming student-teacher ratios which recognize the different programs and levels. According to these estimates, the number of full-time equivalent faculty members needed to teach the estimated number of full-time equivalent students for the 1975 and 1980 Fall terms would be 2,613 and 3,376 respectively. The total space needs for faculty offices were determined by allowing 130 square feet for each of these 2,613 and 3,376 full-time equivalent faculty members.

Since the space factor for Other Instructional space is 40 percent of the space needed for general classrooms, teaching and physical education laboratories and faculty offices, space requirements for this type of space were determined by merely applying this percentage to the previously determined space needs of these four facility types.

The allowance for Research space is one square foot for each full-time equivalent Undergraduate student, 65 square feet per full-time equivalent Master level student and 820 assignable square feet per full-time equivalent Doctoral student. The distribution of students among these three levels for the 1975 and 1980 Fall terms was assumed to be the same as was experienced during the 1967 Fall term.

Public Service facility needs were computed by taking three percent of all the educational and general space requirements, excluding physical plant service. Even though the space needs for the public service function were determined for each institution, it is not the intention of this report to suggest that each institution needs this type space. When structures or portions of structures are built to accommodate this function, the need for this space should be justified on the basis of the institution's program in this area.

Space needs for Library facilities were determined by applying the space factor of 6.25 assignable square feet per full-time equivalent student for study area, plus the factor for stack space needed and an allowance of 25 percent of the student study and stack area for library service area.

Existing Farm Facilities were assumed to meet the needs of agricultural students during the 1975 and 1980 Fall terms, since these demonstration facilities do not necessarily need to be expanded as a result of increased student enrollment.

Four square feet of assignable area per full-time equivalent student was allowed to accommodate the Administrative units of the Arkansas institutions.

Physical Plant Service space needs were based on 4.7 percent of the estimated educational and general and auxiliary enterprise space needs. Since the auxiliary enterprise space needs were not included in the scope of this Study, this area was determined by assuming that the need for auxiliary space per full-time equivalent student in the 1975 and 1980 Fall terms will be the same as it was in the Fall of 1967.

The sum of the assignable square feet needs for the eleven functional units of the academic institutions for the 1975 Fall term is 4,569,392 assignable square feet and 5, 747, 604 assignable square feet for the 1980 Fall term. After existing facilities which are scheduled to remain in service through 1975 and 1980 have been deducted from the total assignable area needed, a total of 1, 763, 469 assignable square feet of additional space will be needed for the 1975 Fall term and 2, 890, 077 for the 1980 Fall term.

Assuming that assignable square feet represents 70 percent of gross square feet, the total gross square feet needed for the 1975 Fall term is 6, 527, 703 and the total for the 1980 Fall term is 8, 210, 862 gross square feet. Additional gross square feet needed for the two terms will be 2, 519, 241 and 4, 128, 681 respectively. The difference between the total and additional gross square feet needed for the 1975 and 1980 Fall terms will be provided by the continued use of the 3.7 million educational and general gross square feet, plus an additional three-fourths million gross square feet of space for which funds have presently been arranged for the construction of this space, less approximately one-half million square feet of space which is scheduled by the institutions to be withdrawn from service.

Only seven of the 89 buildings which are included in the one-half million gross square feet to be removed from service were classified as permanent buildings by an architectural consultant. The remaining 82 buildings were all classified either temporary or obsolete. Even though the seven permanent-type buildings were structurally sound, they appeared to be either functionally obsolete or occupied a location on the campus which will be needed for construction sites of new and larger buildings which when completed will better utilize the existing land. Presented in Tables 26 and 27 are the assignable square feet needs for each institution by types of space for the 1975 and 1980 Fall terms.

Table 26

CUMULATIVE ADDITIONAL ASSIGNABL
OF PHYSICAL FACILITY NE
FOR THE STATE-SUPPORTED ACADEMIC
BY THE 1975 FALL TERM

Functional Use of FACILITIES	AM & N	A & M	APC	ASU	ASU-B
INSTRUCTION					
Classrooms	3,831	-----	16,573	45,371	673
Teaching Laboratories	18,506	-----	16,010	13,712	956
Physical Education Laboratories	20,787	1,614	10,008	37,251	12,783
Faculty Offices	12,516	7,173	11,433	37,340	3,299
Other Instructional Space	24,317	27,953	24,889	50,608	14,527
TOTAL - Instruction	79,957	36,740	78,913	184,282	32,238
RESEARCH	4,557	2,136	4,065	16,927	------
PUBLIC SERVICE	12,600	6,850	8,212	7,022	2,603
LIBRARY	26,723	15,544	30,040	102,822	12,950
FARM FACILITIES	------	------	------	-------	------
ADMINISTRATION AND GENERAL	11,345	4,265	6,831	28,466	3,149
PHYSICAL PLANT SERVICE	51,913	17,482	18,822	47,499	8,869
TOTAL	187,095	83,017	146,883	387,018	59,809

Table 26

TIONAL ASSIGNABLE SQUARE FEET
SICAL FACILITY NEEDS
PPORTED ACADEMIC INSTITUTIONS
HE 1975 FALL TERM

ASU	ASU-B	HSC	SSC	SCA	U. of A. Main Campus	GRAND TOTAL
45,371	673	16,783	2,493	21,449	23,142	130,315
13,712	956	9,541	707	12,170	------	71,602
37,251	12,783	15,924	16,511	23,627	33,515	172,020
37,340	3,299	18,849	6,055	25,643	------	122,308
50,608	14,527	33,739	26,036	28,337	44,187	274,593
184,282	32,238	94,836	51,802	111,226	100,844	770,838
16,927	------	9,047	3,402	20,186	87,209	147,529
7,022	2,603	10,146	8,641	------	15,436	71,510
102,822	12,950	41,026	35,397	46,706	------	311,208
-------	------	------	------	------	------	-------
28,466	3,149	14,210	8,527	13,953	------	90,746
47,499	8,869	40,218	35,420	46,905	104,510	371,638
387,018	59,809	209,483	143,189	238,976	307,999	1,763,469

Table 27

CUMULATIVE ADDITIONAL ASSIGNA
OF PHYSICAL FACILITY
FOR THE STATE-SUPPORTED ACAD
BY THE 1980 FALL T

Functional Use of Facilities	AM & N	A & M	APC	ASU	ASU-
INSTRUCTION					
Classrooms	18, 812	5, 959	29, 020	89, 842	4, 21
Teaching Laboratories	37, 587	13, 595	28, 589	40, 905	4, 50
Physical Education Laboratories	28, 842	7, 230	14, 904	37, 251	20, 37
Faculty Offices	20, 316	12, 243	17, 933	63, 340	5, 50
Other Instructional Space	45, 816	39, 861	39, 458	95, 499	21, 39
TOTAL - Instruction	151, 373	78, 888	129, 904	326, 837	55, 99
RESEARCH	5, 821	2, 979	5, 175	26, 562	-----
PUBLIC SERVICE	15, 344	8, 541	10, 303	14, 034	3, 52
LIBRARY	41, 998	25, 993	43, 211	152, 782	18, 1
FARM FACILITIES	------	------	------	-------	-----
ADMINISTRATION AND GENERAL	16, 401	7, 637	11, 271	45, 502	4, 7
PHYSICAL PLANT SERVICE	63, 220	24, 446	27, 439	76, 390	12, 6
TOTAL	294, 157	148, 484	227, 303	642, 107	95, 0

Table 27
NAL ASSIGNABLE SQUARE FEET
AL FACILITY NEEDS
ORTED ACADEMIC INSTITUTIONS
1980 FALL TERM

SU	ASU-B	HSC	SSC	SCA	U. of A. Main Campus	GRAND TOTAL
,842	4,219	39,126	10,799	45,911	58,569	302,257
,905	4,505	22,840	7,512	31,423	15,422	202,378
,251	20,370	28,092	25,853	35,624	46,304	244,470
,340	5,509	30,029	10,865	40,333	10,515	211,083
,499	21,392	57,335	37,742	56,498	82,450	476,051
,837	55,995	177,422	92,771	209,789	213,260	1,436,239
,562	------	12,194	4,207	27,837	130,602	215,377
,034	3,527	13,670	10,290	3,572	22,151	101,432
,782	18,114	65,050	45,348	74,117	22,253	488,866
----	------	------	------	------	------	-------
,502	4,769	21,934	11,747	23,309	7,717	150,287
,390	12,678	54,738	42,211	64,578	132,176	497,876
,107	95,083	345,008	206,574	403,202	528,159	2,890,077

COST OF ESTIMATED PHYSICAL FACILITY NEEDS EXPRESSED IN 1968 COSTS

Since the cost of projects varies so much between the academic institutions and the other educational agencies, especially the University of Arkansas Medical Center, the same two categories were used in estimating cost as were used in the projection of physical facility needs. The estimated cost of educational and general capital expenditures for the academic institutions consists of three types of cost: new facilities, renovation cost required for continued use of existing facilities through 1980 and the cost of providing air-conditioning in certain academic buildings.

The cost of the new facilities was computed by using the cost factor of $29 per gross square foot. Renovation costs were estimated by each institution since the type and extent of renovation and conversion varied greatly not only among the institutions but among the buildings at an institution.

The 1.1 million gross square feet of academic space at the nine State-supported institutions which are not presently air-conditioned would be air-conditioned if this space were to be replaced. It is recommended that this space be air-conditioned due to an increased emphasis on year-round utilization of facilities and the fact that temperatures in Arkansas rise to a point which requires air-conditioning during the months of May and September. Based on cost estimates received from local architects which range from a high of $3.50 to a low of $2.50, an average cost of $3.00 per gross square foot was used in estimating the cost of needed air-conditioning for existing facilities.

The total cumulative cost of estimated capital needs for the State-supported academic institutions is as follows:

	1975	1980
New Facilities	$73,057,989	$119,731,749
Renovation	1,727,000	1,727,000
Air-Conditioning	3,381,609	3,381,609
TOTAL	$78,166,598	$124,840,358

Assuming that one-third of the total estimated cost of these facilities would be provided by Federal grants under the Higher Education Facilities Act of 1963, the source of funds would be as follows:

Source of Funds	1975	1980
Federal Grants	$26,055,532	$ 41,613,452
State Funds	52,111,066	83,226,906
TOTAL	$78,166,598	$124,840,358

Careful attention should be given to the fact that the cost of these facilities is expressed in 1968 dollars. Therefore, the square foot cost of the needed facilities will require updating when funds are made available to provide the needed facilities.

According to the building cost index used in developing cost factors for this Study, building costs over the past four years have increased at an average annual rate of between four and five percent. This percentage increase should be used with caution when projecting building costs to dates far in the future due to the sporadic movement in building costs during the past few years.

The second category of facility needs for State-supported institutions of higher education includes the off-campus agencies of the University of Arkansas, which consist of the Agricultural Experiment Stations, the agencies housed at the Technology Campus, the Little Rock evening division of the School of Law, Graduate School of Social Work, and the Medical Center.

The administrative heads of these agencies were asked to estimate the additional physical facility needs for their respective agencies for the years 1975 and 1980. These estimates were made under the direction and with the assistance of members of the Commission staff. In each instance careful consideration was given to existing programs and facilities, and the expansion of existing programs and additions of programs to be initiated in the future.

By using this method, the Agricultural Experiment Stations' additional facility needs were determined to be 112, 560 gross square feet with a total cost of $1, 139, 000. This includes the creation of two research and extension centers, greenhouses and head houses, and various other smaller buildings which in some instances will replace buildings which are in a dilapidated condition.

The Technology Campus at Little Rock houses the Industrial Research and Extension Center, the Graduate Institute of Technology, State offices of the Agricultural Extension Service and the Graduate Center. Also housed on this campus are research facilities which are rented to a private corporation which uses approximately 55, 000 square feet.

Enrollment and research activities for the Graduate Institute of Technology, the Graduate Center and the Industrial Research and Extension Center are expected to increase sharply by 1975 and 1980. This, coupled with the need for additional space by the Agricultural Extension Service due to an insufficient amount of space, will require an expansion of the existing facilities by the years 1975 and 1980. It was estimated that by converting the 55, 000 square feet of space which is being rented to a private corporation to academic space to be used by the agencies housed on this campus, the existing facilities will be adequate to meet the 1975 needs of these agencies. By 1980, an additional 19, 900 gross square feet will need to be added to this campus to provide sufficient space for these agencies. The square footage needs, the estimated cost and source of funds can be found in Table No. 29 for 1975 and Table No. 30 for 1980 for the Agricultural Experiment Stations and the Technology Campus.

The Little Rock evening division of the School of Law and the Graduate School of Social Work are presently housed in rented facilities. It was assumed that the School of Law would continue to be housed in rented facilities with room for expansion being created by the removal of the Graduate School of Social Work. The physical facility needs for the Graduate School of Social Work were included in the estimate of space needs for the Medical Center, even though at present it is not under the administrative supervision of the Medical Center.

Space needs for the Medical Center were determined by using a preliminary planning study [9] developed by Lester Gorsline and Associates as a basis in this Study. Lester Gorsline and Associates, planning consultants specializing in scientific, health education and hospital facilities, developed what they considered to be the ultimate space needs for the University of Arkansas Medical Center. These needs were determined by a detailed analysis of existing facilities and programs. The need for expansion of existing programs, new programs and the continuation of existing programs was determined by consultation with University of Arkansas Medical Center faculty and administration.

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[9] Preliminary Planning Analysis, University of Arkansas Medical Center, Little Rock, Lester Gorsline Associates, March, 1967.

After needed programs had been determined, a projection was made of the number of students, faculty, staff, hospital patients and other persons who would be using these facilities in the future. By using all these facts, the total space needed for each administrative unit of the Medical Center was determined. A plan for the orderly expansion of the existing facilities was developed whereby departments which needed additional space could be moved to new facilities, and the existing space would be converted to accommodate the needs of other departments.

The consultant recommended that the ultimate needs of the University of Arkansas Medical Center would require an additional 1,699,413 square feet, which expressed in 1968 costs of $50.27 per gross square feet would cost a total of $89,021,864. In addition to this ultimate need, the consultant also recommended the construction of other facilities which would serve as support facilities for the Medical Center but the responsibility of construction of these buildings should be vested with other State agencies; therefore, they were not considered a part of the ultimate needs of the University of Arkansas Medical Center. These facilities include a rehabilitation hospital, pediatrics pavilion, school of dentistry and an institute for the aging which would require 1,075,500 gross square feet, and at $50.27 per gross square foot would cost $54,065,385.

The administration of the University of Arkansas Medical Center was asked to assist members of the Commission staff in identifying which of the facilities contained in the consultant's projections of ultimate facility needs were most urgently needed. This was done by identifying these urgently needed facilities by the administrative unit of the Medical Center under which they will be operated, and a division was made of these needed facilities between 1975 and 1980.

Presented in Table No. 28 are the gross square feet needs and the estimated cost of the educational and general physical facility needs for 1975 and 1980. The amounts contained in this table reflect the effect of the previously mentioned priorities. The gross square footage for each of the units shown in this table was arrived at by studying the recommended assignable square footage for the various sub-units under each of the administrative units shown, and this assignable area was converted to gross square feet by using a factor of 1.8, as was utilized by Lester Gorsline and Associates. Estimated cost was based on a 1968 cost of $50.26 per gross square foot, with $31.03 being used for existing areas which will require remodeling.

The following represents part of the reasoning used in establishing the physical facility needs as seen in Table No. 28 . Since the Health Center provides space for the general administrative functions of the Medical Center, as well as additional commonly used classrooms, it will be necessary for this unit to be expanded as the total medical facilities are increased. This unit was placed in priority No. Two (1980) even though the consultant gave it Priority No. One.

The present library is seriously limited in the area of reading rooms and stack area, and expansion of this facility is a necessity if the professional schools of

Table 28
ADDITIONAL PHYSICAL FACILITY NEEDS OF THE UNIVERSITY OF ARKANSAS MEDICAL CENTER FOR 1975 AND 1980

Unit	1975		1980	
	Gross Square Feet	Estimated Cost	Gross Square Feet	Estimated Cost
Health Center	------	---------	30,699	$ 1,543,238
Library	66,210	$ 3,328,376	66,210	3,328,376
Central Animal Facilities	14,616	734,746	14,616	734,746
School of Medicine	193,752	9,739,913	294,393	14,799,136
School of Pharmacy	131,148	6,592,809	161,615	8,124,385
School of Nursing	18,142	911,998	25,608	1,287,313
University Hospital	122,854	6,175,870	305,725	15,368,795
Graduate School of Social Work	6,300	316,701	6,300	316,701
School of Health Related Professions and Dental Hygienists	-----	-------	50,958	2,561,659
Remodeling Existing Facilities	-----	3,592,373	------	3,592,373
TOTAL	553,022	$31,392,786	956,124	$51,656,722

the Medical Center are to be expanded and improved. The area requested for the library will also include space for an audio-visual department, centralized data processing operations and a central registrar for all units of the University in Little Rock. The proper development of related programs in audio-visual will require additional space. The data processing operations of the Medical Center are scattered throughout the campus at this time and must be centralized for a more efficient use of this equipment.

The existing central animal facilities need to be expanded and improved since new Federal legislation has imposed heavy obligations on all medical institutions to improve the standards of this type facility. The Medical Center is presently operating its animal care facility under a temporary permit and unless progress is shown in improving these facilities, this permit will be in serious jeopardy.

The space needs for the School of Medicine included in the 1975 year are the needed departmental offices for the clinical departments of the School of Medicine which will include offices and examining rooms for private patients who will be seen by the physicians working in the various departments of the School. At present these offices are in the hospital and are not large enough to meet the present needs. Also included in this category are laboratories to be used by individual physicians in connection with Federal research projects. The space needs for the School of Medicine for 1980 will be needed due to a continuing growth of the School of Medicine, particularly in the area of graduate work. This growth will create a necessity for the pre-clinical departments to be further expanded, as well as offices and laboratory space. A modern teaching facility is also included in this grouping which will provide general classroom facilities fully equipped for modern teaching methods and for continuing education which is assuming a high priority in the health profession. However, only one-half of the consultant's recommendations for modern teaching facilities was included since it was felt that classrooms and laboratories which will be expanded in other facilities would also be used for this purpose.

The rapid expansion of the School of Pharmacy requires that additional space be found for it, since it has been necessary to limit enrollments in the freshman class to 50 due to inadequate facilities. Approximately 100 applications were received from persons interested in attending the School of Pharmacy in the 1967 Fall term, while only 50 could be admitted due to insufficient space. The graduate program of this School has also been seriously inhibited by lack of space.

The space needs shown for the School of Nursing will be required to meet a rapidly growing enrollment, in addition to providing space for an expanded graduate program. An expansion of the graduate program in the School of Nursing is needed if the Medical Center is to assume its proper role in the development of associate degree programs which will require more instructors to teach in the associate degree schools being established in Arkansas.

The central stores and receiving area of the hospital are seriously cramped for space which has created an uneconomical system of handling supplies for the entire Medical Center. Additional space is urgently needed to rectify this problem.

The general out-patient clinic of the hospital was poorly designed and access to the other emergency facilities is very difficult. The construction of a more functional out-patient area is needed which would be more suitable to all classes of patients and which should greatly improve the private patient in-take of the hospital, as well as the efficiency of the emergency room and reporting services. The vacating of the current out-patient clinic would provide office space needed for a variety of Federal and State programs which are important to the operation of the Medical Center.

The space needs for the Graduate School of Social Work were included in the consultant's report even though this school is not presently under the administrative control of the University of Arkansas Medical Center. This is a new program which will begin admitting students in January of 1969. It is now housed in a rented facility which is shared with the evening division of the School of Law in Little Rock. Since this will be a growing and very important program of the University, additional space will be needed to house this newly created school. The removal of the Graduate School of Social Work from the existing rented facilities will provide additional space for the expansion of the evening division of the School of Law at Little Rock which anticipates enrollment increases that will require more space than is presently available.

Within the next few years additional schools of health related professions will need to be added to the facilities of the Medical Center with the nucleus being built around the present School of Dental Hygiene. Federal funds are available for this construction on a favorable matching basis, as well as for the operating expenses of schools which are below the baccalaureate level.

The funds needed for remodeling existing facilities will be used for remodeling the space in the educational building which will be vacated by the School of Pharmacy, School of Nursing and the library. The remodeled space will be used by the pre-clinical departments of the School of Medicine. Also included in this item are funds needed to remodel the hospital. The hospital remodeling would convert space which is now occupied by the clinical departments of the School of Medicine to space which would be available for the expansion of hospital laboratories, central services, record keeping and other needed services.

A summary of information contained in Table No. 28 is presented in Tables No. 29 and 30 for the Medical Center, as well as an estimate of sources of funds to finance these needed facilities. The amount shown under Federal grants in the "Source of Funds" section of these tables was calculated by assuming that Federal grants would be available to provide approximately two-thirds of the cost of these facilities. If this level of funding is not available from the Federal government at the time of construction, additional State funds would be needed.

Tables No. 29 and 30 contain a summary of facility needs, the cost of these facilities and a source of funds for financing all of the off-campus agencies of the University of Arkansas.

CAMPUS PLANNING

Since the physical facility needs of the State-supported institutions of higher learning in Arkansas are expected to more than double between now and 1980, it is imperative that an orderly and efficient development of campuses be attained. The development of a good campus plan could do much to assure the orderly development of the various campuses across the State. Campus plans for each of the nine State-supported academic institutions should be developed which would include the defining of major functional areas for the campus, that is,

Table 29
CUMULATIVE ADDITIONAL PHYSICAL FACILITY NEEDS OF THE OFF-CAMPUS AGENCIES OF THE UNIVERSITY OF ARKANSAS FOR THE 1975 FALL TERM

	Square Feet		Estimated Cost	Renovation Cost	Total Cost	Source of Funds	
	Assignable	Gross				Federal Grants	Other Funds
Agricultural Experiment Station	101,304	112,560	$ 1,139,000	--------	$ 1,139,000	$ 227,500	$ 911,500
Technology Campus	-------	-------	---------	$1,072,500	1,072,500	-------	1,072,500
Little Rock Division of School of Law and Graduate School of Social Work (Rented Facilities)							
Medical Center	307,234	553,022	27,800,413	3,592,373	31,392,786	20,928,524	10,464,262
Total - 1975 Additional Needs	408,538	665,582	$28,939,413	$4,664,873	$33,604,286	$21,156,024	$12,448,262

Table 30
CUMULATIVE ADDITIONAL PHYSICAL FACILITY NEEDS OF THE OFF-CAMPUS AGENCIES OF THE UNIVERSITY OF ARKANSAS FOR THE 1980 FALL TERM

	Square Feet		Estimated Cost	Renovation Cost	Total Cost	Source of Funds	
	Assignable	Gross				Federal Grants	Other Funds
Agricultural Experiment Station	101, 304	112, 560	$ 1, 139, 000	--------	$ 1, 139, 000	$ 227, 500	$ 911, 500
Technology Campus	15, 240	19, 900	600, 000	$1, 072, 500	1, 672, 500	-------	1, 672, 500
Little Rock Division of School of Law and Graduate School of Social Work (Rented Facilities)							
Medical Center	531, 180	956, 124	48, 064, 349	3, 592, 373	51, 656, 722	34, 437, 815	17, 218, 907
Total - 1980 Additional Needs	647, 724	1, 088, 584	$49, 803, 349	$4, 664, 873	$54, 468, 222	$34, 665, 315	$19, 802, 907

land allocation to the academic area, to housing and to athletic and recreation space. The plans would also include the need for and placement of vehicular and pedestrian circulation needs, vehicle parking and an estimate of line size and cost of development, as well as placement of utility corridors. These plans would be developed by preparing detailed campus maps showing all existing facilities and with the additional space needs recommended in this report, campus maps would be prepared which would show how the campuses would be developed during the next twenty years. These maps would contain both existing lands and lands which would be required for future expansion, as well as the general placement of future buildings. These plans would be developed through consultation with the administration of the various institutions and should serve as a planning guide for the future development of the nine campuses.

The estimated cost for the development of the nine campus plans is estimated to be $115, 000, which appears to be a wise investment since the nine State-supported institutions of higher learning will need to spend $124, 000, 000 for additional facilities by 1980.

APPENDIX A

Table A1
GROSS SQUARE FEET OF ALL EXISTING FACILITIES BY CONDITION OF BUILDING FOR THE PUBLIC COMMUNITY JUNIOR COLLEGES AND PRIVATE INSTITUTIONS AS OF THE 1967 FALL TERM

Institution	Total	Temporary	Permanent	Obsolete
PUBLIC COMMUNITY JUNIOR COLLEGES:				
Phillips County Community Junior College	72,701	-----	72,701	------
Westark Community Junior College	82,554	3,232	79,322	------
PRIVATE INSTITUTIONS:				
Arkansas College	183,541	-----	169,648	13,893
College of the Ozarks	208,813	16,019	192,794	------
Harding College				
Hendrix College				
John Brown University	334,358	64,495	269,863	------
Little Rock University	176,462	8,837	167,625	------
Ouachita Baptist University				
Southern Baptist College				
Central Baptist College				
Crowley's Ridge Junior College	46,034	18,695	27,339	------
Philander Smith College	157,485	19,545	137,940	------
Shorter College				
Arkansas Baptist College				
TOTAL				

Table A2

EDUCATIONAL AND GENERAL GROSS SQUARE FEET BY CONDITION OF BUILDING FOR THE PUBLIC COMMUNITY JUNIOR COLLEGES AND PRIVATE INSTITUTIONS AS OF THE 1967 FALL TERM

Institution	Total	Temporary	Permanent	Obsolete
PUBLIC COMMUNITY JUNIOR COLLEGES:				
Phillips County Community Junior College	63,369	---	63,369	------
Westark Community Junior College	79,834	753	79,081	------
PRIVATE INSTITUTIONS:				
Arkansas College	75,919	---	62,026	13,893
College of the Ozarks	108,319	16,019	92,300	------
Harding College				
Hendrix College				
John Brown University	165,088	39,306	125,782	------
Little Rock University	158,595	8,837	149,758	------
Ouachita Baptist University				
Southern Baptist College				
Central Baptist College				
Crowley's Ridge Junior College	17,457	5,306	12,151	------
Philander Smith College	89,635	10,805	78,830	------
Shorter College				
Arkansas Baptist College				
TOTAL				

Table A3
EDUCATIONAL AND GENERAL ASSIGNABL
BY FUNCTION FOR THE PUBLIC COMMUNITY
AND PRIVATE INSTITUTIONS AS OF THE 1

INSTITUTION	FUNCTIONAL US						
	Instruction						
	Class-rooms	Teach-ing Labs	P. E. Labs	Faculty Offices	Other Instr. Space	Total Instr.	Resear
PUBLIC COMMUNITY JUNIOR COLLEGES:							
Phillips County Community Junior College	11,393	16,218	7,370	2,520	6,362	43,863	-----
Westark Community Junior College	13,170	23,064	11,802	2,181	4,022	54,239	-----
PRIVATE INSTITUTIONS:							
Arkansas College	9,679	6,531	-----	4,712	16,210	37,132	-----
College of the Ozarks	15,626	6,105	8,316	3,515	21,450	55,012	1,425
Harding College							
Hendrix College							
John Brown University	15,996	15,873	16,890	5,333	37,239	91,331	-----
Little Rock University	31,168	20,551	15,109	7,111	20,967	94,906	102
Ouachita Baptist University							
Southern Baptist College							
Central Baptist College							
Crowley's Ridge Junior College	3,190	1,584	-----	324	794	5,892	-----
Philander Smith College	8,092	11,092	6,171	3,157	13,242	41,754	-----
Shorter College							
Arkansas Baptist College							
TOTAL							

Table A3
ENERAL ASSIGNABLE SQUARE FEET
PUBLIC COMMUNITY JUNIOR COLLEGES
TUTIONS AS OF THE 1967 FALL TERM

FUNCTIONAL USE OF FACILITIES

ther str. pace	Total Instr.	Research	Public Service	Library	Farm Facilities	Administration & Gen.	Physical Plant Service	Total Assignable
, 362	43, 863	-----	-----	8, 658	-----	3, 929	------	56, 450
, 022	54, 239	-----	-----	4, 880	-----	3, 856	2, 367	65, 342
, 210	37, 132	-----	84	4, 386	-----	5, 347	460	47, 409
, 450	55, 012	1, 425	-----	12, 891	-----	4, 043	10, 374	83, 745
7, 239	91, 331	-----	9, 031	9, 688	-----	6, 691	5, 599	122, 340
0, 967	94, 906	102	-----	16, 654	-----	6, 813	8, 067	126, 542
794	5, 892	-----	-----	1, 162	-----	1, 387	6, 505	14, 946
3, 242	41, 754	-----	194	8, 758	-----	5, 392	4, 601	60, 699

Table A4

AUXILIARY ENTERPRISES ASSIGNABLE SQUARE FEET FOR THE PUBLIC COMMUNITY JUNIOR COLLEGES AND PRIVATE INSTITUTIONS AS OF THE 1967 FALL TERM

Institution	Athletic	Food Facilities	Residential	Student Health	Other Auxiliary Enterprises	Total
PUBLIC COMMUNITY JUNIOR COLLEGES:						
Phillips County Community Junior College	5,913	2,916	-----	---	-----	8,829
Westark Community Junior College	233	1,964	-----	---	221	2,418
PRIVATE INSTITUTIONS:						
Arkansas College	15,542	6,397	47,936	587	7,129	77,591
College of the Ozarks	1,122	6,905	49,917	1,537	7,729	67,210
Harding College						
Hendrix College						
John Brown University	7,815	11,857	96,245	168	8,915	125,000
Little Rock University	1,159	9,346	2,698	229	1,759	15,191
Ouachita Baptist University						
Southern Baptist College						
Central Baptist College						
Crowley's Ridge Junior College	-----	4,764	15,238	105	-----	20,107
Philander Smith College	-----	6,420	35,242	529	4,536	46,727
Shorter College						
Arkansas Baptist College						
TOTAL						

Table A5

AIR-CONDITIONED EDUCATIONAL AND GENERAL GROSS SQUARE FEET FOR THE PUBLIC COMMUNITY JUNIOR COLLEGES AND PRIVATE INSTITUTIONS AS OF THE 1967 FALL TERM

Institution	Total	Air-Conditioned	Non-Air-Conditioned
PUBLIC COMMUNITY JUNIOR COLLEGES:			
Phillips County Community Junior College	63,369	48,233	15,136
Westark Community Junior College	79,834	25,436	54,398
PRIVATE INSTITUTIONS:			
Arkansas College	75,919	54,932	20,987
College of the Ozarks	108,319	17,258	91,061
Harding College			
Hendrix College			
John Brown University	165,088	36,122	128,966
Little Rock University	158,595	132,070	26,525
Ouachita Baptist University			
Southern Baptist College			
Central Baptist College			
Crowley's Ridge Junior College	17,457	9,739	7,718
Philander Smith College	89,635	1,542	88,093
Shorter College			
Arkansas Baptist College			
TOTAL			

Table A6
CLASSROOM UTILIZATION AT THE PUBLIC COMMUNITY JUNIOR COLLEGES AND PRIVATE INSTITUTIONS DURING THE 1967 FALL TERM

Institution	Average Hourly Room Use Per Week			Percent of Stations Used When Room is in Use		
	Day	Night	Total	Day	Night	Total
PUBLIC COMMUNITY JUNIOR COLLEGES:						
Phillips County Community Junior College						
Westark Community Junior College	21.9	5.1	27.0	47.2	31.5	44.2
PRIVATE INSTITUTIONS:						
Arkansas College	13.0	.5	13.5	53.6	42.7	53.2
College of the Ozarks	12.3	---	12.3	67.2	----	67.2
Harding College						
Hendrix College						
John Brown University	14.9	---	14.9	70.3	----	70.3
Little Rock University	21.1	6.9	28.0	54.9	46.6	52.9
Ouachita Baptist University						
Southern Baptist College						
Central Baptist College						
Crowley's Ridge Junior College	13.8	---	13.8	40.7	----	40.7
Philander Smith College	21.5	1.5	23.0	54.4	35.2	52.9
Shorter College						
Arkansas Baptist College						

Table A7

UTILIZATION OF TEACHING LABORATORIES AT THE PUBLIC COMMUNITY JUNIOR COLLEGES AND PRIVATE INSTITUTIONS DURING THE 1967 FALL TERM

Institution	Average Hourly Room Use Per Week			Percent of Stations Used When Room is in Use		
	Day	Night	Total	Day	Night	Total
PUBLIC COMMUNITY JUNIOR COLLEGES:						
Phillips County Community Junior College						
Westark Community Junior College	14.9	6.1	21.0	63.5	48.8	58.9
PRIVATE INSTITUTIONS:						
Arkansas College	6.0	---	6.0	55.5	----	55.5
College of the Ozarks	4.1	---	4.1	65.2	----	65.2
Harding College						
Hendrix College						
John Brown University	3.5*	---	3.5*	98.7	----	98.7
Little Rock University	9.3	1.2	10.5	60.0	66.4	61.3
Ouachita Baptist University						
Southern Baptist College						
Central Baptist College						
Crowley's Ridge Junior College	14.5	---	14.5	54.7	----	54.7
Philander Smith College	12.7	.3	13.0	42.6	35.7	42.8
Shorter College						
Arkansas Baptist College						

*The 15 rooms in the Cabinet Shop, Engineering Building and Engineering Annex which are used primarily for irregularly scheduled vocational work if deleted would approximately double the utilization.

Table A8

LAND INVENTORY BY CONTROL OF LAND FOR THE PUBLIC COMMUNITY JUNIOR COLLEGES AND PRIVATE INSTITUTIONS AS OF THE 1967 FALL TERM

Institution	In Fee Simple	Restricted Rights	Leased	Total
PUBLIC COMMUNITY JUNIOR COLLEGES:				
Phillips County Community Junior College	65	--	---	65
Westark Community Junior College	--	--	40	40
TOTAL	65	--	40	105
PRIVATE INSTITUTIONS:				
Arkansas College	108	--	---	108
College of the Ozarks	30	--	---	30
Harding College	2,927	--	100	3,027
Hendrix College	1,962	--	---	1,962
John Brown University	331	--	---	331
Little Rock University	83	--	---	83
Ouachita Baptist University	178	--	---	178
Southern Baptist College	572	--	---	572
Central Baptist College	26	--	---	26
Crowley's Ridge Junior College	2,185	--	---	2,185
Philander Smith College	33	10	---	43
Shorter College				
Arkansas Baptist College	5	--	---	5
TOTAL	8,440	10	100	8,550

Table A9

LAND INVENTORY BY LOCATION OF LAND FOR THE PUBLIC COMMUNITY JUNIOR COLLEGES AND PRIVATE INSTITUTIONS AS OF THE 1967 FALL TERM

Institution	Main Campus (Contiguous)	One Mile Radius of Main Campus	Over One Mile From Main Campus	Total
PUBLIC COMMUNITY JUNIOR COLLEGES:				
Phillips County Community Junior College	65	---	---	65
Westark Community Junior College	40	---	---	40
TOTAL	105	---	---	105
PRIVATE INSTITUTIONS:				
Arkansas College	100	8	---	108
College of the Ozarks	30	---	---	30
Harding College	160	662	2,205	3,027
Hendrix College	210	---	1,752	1,962
John Brown University	323	8	-----	331
Little Rock University	83	---	-----	83
Ouachita Baptist University	178	---	-----	178
Southern Baptist College	172	---	400	572
Central Baptist College	12	14	---	26
Crowley's Ridge Junior College	125	380	1,680	2,185
Philander Smith College	25	---	18	43
Shorter College				
Arkansas Baptist College	5	---	---	5
TOTAL	1,423	1,072	6,055	8,550

APPENDIX B

INSTITUTIONAL REPRESENTATIVES
(Responsible for Gathering Data at Their Campus)

Arkansas Public Institutions

Arkansas A M & N College
J. A. Ramos

Arkansas A & M College
Jacob C. Hogue

Arkansas Polytechnic College
Travis Adams

Arkansas State University
Dr. Melvin Freed

ASU - Beebe Branch
Walter D. England

Henderson State College
Guy Hayes

Southern State College
B. R. Machen

State College of Arkansas
Dr. A. E. Burdick

University of Arkansas
J. D. McFarland

University of Arkansas
Medical Center
Charles Phillips

Public Community Junior Colleges

Phillips County Community
Junior College
Bill Day

Westark Community Junior College
Jim Bolin

Private Institutions

Arkansas College
Earl Coats

College of the Ozarks
J. T. Patterson

Harding College
Dr. Joe Pryor

Hendrix College
Phil Bumpers

John Brown University
James Sheets

Little Rock University
Francis Robinson

Ouachita Baptist University
Dr. Henry Lindsay

Southern Baptist College
Dr. D. Jack Nicholas

Central Baptist College
Norman C. Crass

Crowley's Ridge Junior College
Dr. Lavon L. Shoptaw

Philander Smith College
J. D. Scott

Arkansas Baptist College
N. R. Kelly